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OBSERVATION AND DEMONSTRATION IN TEACHER EDUCATION BY CLOSED CIRCUIT TELEVISION AND VIDEO TAPE RECORDINGS.

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THIS PROJECT WAS DESIGNED TO (1) ASSESS THE FEASIBILITY OF A COOPERATIVE EFFORT IN THE USE OF VIDEO TAPE RECORDINGS BETWEEN A STATE INSTITUTION AND PRIVATE LIBERAL ARTS COLLEGES, (2) TO EVALUATE VIDEO TAPE RECORDINGS AS A TOOL IN TEACHER EDUCATION, AND (3) TO EVALUATE INTERACTION ANALYSIS AS AN OBSERVATIONAL TOOL IN VIEWING VIDEO TAPE RECORDINGS OF TEACHING-LEARNING SITUATIONS. 16 PRIVATE COLLEGES WERE GIVEN THE USE OF A VIDEO TAPE VAN, EQUIPPED BY KANSAS STATE TEACHERS COLLEGE, FOR ONE WEEK. OPINION EVALUATION FORMS WERE COMPLETED BY THE STUDENTS WHO VIEWED THE VIDEOTAPE RECORDINGS, BY OFFICIALS OF THE COLLEGES, AND BY THE TECHNICIAN OPERATING THE VAN. THE COOPERATIVE PROJECT WAS FOUND TO BE FEASIBLE WITH RESPECT TO ADMINISTRATION, ACCEPTANCE, AND SUITABILITY. A SUBSAMPLE OF STUDENTS WHO HAD BEEN INTRODUCED TO THE FLANDERS' SYSTEM OF INTERACTION ANALYSIS AS AN OBSERVATIONAL TOOL WAS MORE POSITIVE TOWARDS VIDEO TAPE THAN THE STUDENTS WHO HAD NO KNOWLEDGE OF INTERACTION ANALYSIS. (MS)

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Final Report

Research Project No. BR 5-1009 EM 006005

Title VII-A, NDEA, PL. 85-864

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Observation and Demonstration in Teacher Education by Closed-Circuit Television and Video-Tape Recordings

by

J. T. Sandefur, Project Director

Roger Pankratz, Research Associate

Jerry Couch, Research Associate

Kansas State Teachers College
Emporia, Kansas
July, 1967

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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The Project Staff is sincerely appreciative of the cooperation of the sixteen participating Liberal Arts Colleges, the heads of the education departments, and the faculty and students of those education classes from which the data were collected.

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PART I

THE PROBLEM

PART I

THE PROBLEM

A. INTRODUCTION

The availability of CCTV as a tool in teacher education has been limited in the past by a lack of adequate funds to purchase and to operate the necessary equipment. This has been especially true for private liberal arts colleges where enrollments in teacher education have not been able to justify the acquisition of CCTV facilities.

In an attempt to reach a feasible solution to this problem, it was proposed that Kansas State Teachers College share closed-circuit television equipment and prepared video-tapes with liberal arts colleges in Kansas. One year prior to the inception of this project, funds were made available at Kansas State Teachers College to purchase a video-tape recorder and television camera and to make video-tape recordings of actual teaching situations.

B. THE PROBLEM DEFINED

The problem investigated was whether video-tapes of teaching-learning situations produced for the purpose of teacher education could be efficiently and effectively shared by a state-supported institution having laboratory schools as well as facilities for video-tape production, and private liberal arts colleges lacking these facilities.

A second dimension of the problem was the determination of the effectiveness of video-taped recordings of teaching-learning situations when presented to pre-service teachers (a) as unstructured observations intended to provide a commonality of experience for illustration and discussion, and

(b) in conjunction with Flanders' System of Interaction Analysis designed to detect direct and indirect teacher influence.

C. OBJECTIVES

The specific objectives of the proposed project were:

1. To assess the feasibility of a cooperative project in the use of video-taped recordings in teacher education between a state institution, with laboratory schools and video-tape production facilities, and sixteen private liberal arts colleges without such facilities.

2. To assess the primary function and value of observing video-tapes of classroom situations as a laboratory experience for pre-service teachers.

3. To assess the effectiveness of a mobile unit in providing CCTV experiences in teacher education to institutions without television facilities.

4. To determine whether students who have as a tool for their observational experience a knowledge of Flanders' System of Interaction Analysis will report video-tapes to be significantly more valuable than those students who view video-tapes without the knowledge of interaction analysis.

D. DEFINITIONS OF TERMS

1. Video-taped Recordings of Teaching-Learning Situations--Simultaneous video and audio recordings on magnetic tape of actual elementary and secondary classroom situations unrehearsed and unstaged. These recordings were selected specifically to show a variety of teaching behaviors, teaching techniques, and teaching styles.

2. State-supported Institution--A college or university owned and operated by the state which receives its budgetary support from tax revenues. The State-supported Institution in this project was Kansas State Teachers College.

3. Private Liberal Arts College--A four year institution which offers a baccalaureate degree and receives its budgetary support from private sources.

4. Flanders' System of Interaction Analysis--A system developed by Ned A. Flanders which classifies all classroom verbal behavior into ten mutually exclusive categories. The ten categories are grouped to show whether the teacher's verbal influence in the classroom is direct or indirect. For a more detailed description of this system, see Appendix A.

E. ASSUMPTIONS

In this study it was assumed that:

1. Pre-service teachers who viewed video-taped recordings of actual classroom situations were in a position to offer a meaningful assessment of the value of these recordings as an experience in teacher education and would give valid responses to the Video-Tape Opinionnaire. (See Appendix B)

2. The students' responses on the Video-Tape Opinionnaire were a valid measure of the value of video-taped recordings as a tool in teacher education.

3. The Chairman of the Department of Education in each of the liberal arts colleges which participated in this study was in a position to offer a meaningful assessment of (a) the success of the cooperative effort between the state institution and the liberal arts college, (b) the value of video-taped recordings as a tool in teacher education, and (c) the feasibility of future cooperative efforts between a state institution and liberal arts colleges in the use of video-taped recordings for teacher education.

4. The operator of the video-tape van, because of his background and experience, was in a position to offer a meaningful assessment of (a) the durability and dependability of the video-tape equipment, and (b) the general acceptance of the project at each institution visited by the video-tape van.

PART II

RELATED RESEARCH

PART II

RELATED RESEARCH

The need for new methods of providing more laboratory experiences for pre-service teachers in liberal arts colleges is well supported in professional literature.

It is a common criticism that pre-service professional education is not internalized by the student. This criticism implies that the theory of professional education is being taught in a manner that cannot be translated to functional application at a later date. Fred T. Wilhelms, of the San Francisco State College Teacher Education Project, points out some of the common problems that educators are experiencing:

> The theoretical material which was presumably learned in the earlier stages often "just isn't there" when the time comes to apply it. Either the student never really mastered it or he acquired it in such an out-of-context fashion that he has difficulty relating it to his task.
>
> Similarly, the student lacks aroused motivation. Having never faced, even in a small way, the grave and complex problems which perpetually challenge the inexperienced teacher, he often complains of "lack of content" even while his class is dealing with problems which defy the best minds in the profession.
>
> The student--especially if he is an able and sensitive one--may be led to a shallow-rooted acceptance of a set of theoretical constructs. His aspiration level goes very high. Then his pretty image is shattered by sudden contact with harsh realities and often he over-reacts in cynical defeatism.
>
> With some uneasy foreknowledge of the above, many students never really commit themselves to their professional preparation, feeling that it is "just theory" and that they will have to discard it later anyway (7, p. 209).

A survey of programs, practices and problems by the Subcommittee on Teacher Education in Liberal Arts Colleges of the American Association of Colleges for Teacher Education revealed that relating academic and professional offerings and relating theory to practice are among the twelve most critical problems in teacher education in Liberal Arts Colleges (5, p. 46). This would indicate that the situation in teacher education described earlier by Wilhelm also exists in the liberal arts college.

The survey by the subcommittee also showed that developing an adequate observation and student teaching or intern experience ranked fourth among the most critical problems in teacher education in liberal arts colleges (5, p. 46). This problem, no doubt, exists in Kansas. A comprehensive survey by Barber concerning Professional Laboratory Experience in Teacher Education in Kansas, revealed that cooperating schools were quite concerned with the problem of too many student teachers. Results of this survey indicate that forty-nine percent of the schools have made policies to protect their pupils from being subjected to this situation (2, p. 76).

In spite of the difficulty of scheduling student observations and student teaching experiences, there is an increasing emphasis upon this aspect of teacher education. A questionnaire study by the National Council of Independent Schools a few years ago revealed that "practice teaching is the part of professional training most widely and vigorously approved by the independent school teachers who have experienced it, even those who reported that they received little value from the rest of their training at schools of education" (6, pp. 271-274).

Madeline S. Levine, Associate Professor of Education at New York University, described a program at that institution in which laboratory experiences for prospective teachers were begun as early as the freshman year. This particular program did not involve working with students directly, but was concentrated on working in the school office. Even with this limited contact, the students reported they felt that they had gained an increased understanding of children. Dr. Levine reported the following:

> When their reactions were analyzed, for instance, it became clear that the students, almost without exception, felt that the greatest value of their experiences lay in two major areas; namely, in increased familiarity with children and in achieving a more realistic approach to school problems...More students indicated that they enjoyed their contacts with children. Most of these contacts were not teaching ones; but were related to escorting children on trips, helping them in the library, observing them in assembly and audio-visual aids periods (4, p. 30).

If laboratory experiences are to play an increasingly more important role in professional education within this framework of a limited number of cooperating schools and teachers, new methods of bringing these laboratory experiences to the pre-professional education student must be explored.

The specific possibilities of closed-curcuit television in teacher education are many. According to Edwin P. Adkins, some of these are: (1) direct teaching of lecture courses in the teacher education curriculum; (2) observation of child and adolescent behavior in classroom situations; (3) observation of instructional demonstrations by expert teachers; (4) recordings of student teachers in action and of teachers using special methods techniques preserved for immediate and future use; (5) production of recordings for use in advanced professional programs such as guidance, testing, and supervision; and (6) viewing of special activities such as individual tests, student council sessions, and school club meetings, where spontaneity is essential (1, pp. 56-60). Adkins writes:

> The CCTV demonstrations hold great promise in courses in methods of teaching, education psychology, and child development. This remains true whether the course is general or specific and on the high school or elementary level. With proper planning, isolated or regular demonstrations can be executed so that content can be specifically illustrated at the proper time. The expert teacher who handles the demonstration group can work with the college instructor without too much difficulty. The demonstration teacher can meet with the students both before and after the demonstration and discuss with them the nature of what they will see or have seen.
>
> CCTV demonstrations can be provided throughout the entire four years of teacher education, thus providing a concurrent experience of fused theory and practice. The presentation of methods, techniques, or materials in verbalized form, which may well sound like unrealistic "theory" to the undergraduate, can be expertly applied in the classroom. Also, the undergraduate is more apt to see the connection between theory and practice if his observations are guided rather than if he samples classes at random (1, p. 16).

In order to alleviate the problem of finding time and classroom space for observation by student teacher trainees, many schools are turning to the use of closed-circuit television observation of public school classrooms in place of actual in-person observation. An experiment to test the effectiveness of the two types of observation was conducted at San Jose State College, San Jose, California, using subjects who were teacher training candidates enrolled in a regularly scheduled course entiled "Elementary Curriculum and Observation" (8, pp. 56-60).

Each semester the students were divided into five groups; three experimental and two control. Experimental group one was given twenty-five percent of the normal in-person observation time; experimental group two was given fifty percent, and experimental group three was given seventy-five percent. The control groups had no television and spent their regular fifty hours in in-person observation. At the conclusion of each semester the students were rated by the resident teachers and principals as to their performance during in-person observation. A locally-established rating scale was used for this purpose.

At the conclusion of the observation course, each student was assigned at random to two eight-week periods of student teaching at two grade levels. The assessment of the students on the second criterion measure, performance during student teaching, was accomplished through the use of a locally-established rating scale, Evaluation of Student Teachers. The final rating was conducted by two college members of the professional education staff of the college, two public school teachers, and two public school administrators.

The study concluded "...that the groups do not differ among the five or between combined experimental and combined control groups on the measures used in this research." (8, p. 60). These findings indicated that, according to the evaluation measures used, planned observation via CCTV and less "in-person" observation was as effective as "in-person" observation only.

Because of increasing enrollment in the teacher education program at East Texas State College, the college decided to adopt closed-circuit television to provide observation experience for their teacher trainees. Sixteen classrooms in the elementary building were wired for closed-circuit television and the student teacher trainees were given opportunities to observe teaching techniques and pupil responses. Later, a survey was made of the students who had used the television system for observation and were student teaching. A majority of the students agreed that their teacher education program would have been incomplete without the CCTV. They indicated that traditional observation programs would not have contributed more. Future plans at East Texas State include using video-tape recordings for viewing student teachers in teaching situations. The college expects to expand the observation program to include the junior and senior high school levels.

East Texas State College lists the following advantages of classroom observation by closed-circuit television, based upon this experience with the medium. The method:

1. Provides a common experience for all college students.
2. Lessens disruption of public school classroom activities.
3. Provides close-ups of children's reactions to instructional situations.
4. Eliminates the necessity of college students traveling to public schools, thus saving time.
5. Lessens the work load of the public school teachers, since fewer facilities for observation are required (3, pp. 26-27).

The literature surveyed indicates; (1) there is a need for new methods of providing more laboratory experiences for pre-service teachers; (2) that this need exists in the state of Kansas and; (3) that closed-circuit television holds great promise in providing valuable laboratory experiences in teacher education programs. This project was proposed to test the feasibility of a cooperative effort that would employ the media of closed-circuit television to provide laboratory experiences for pre-service teachers in Kansas

PART III

PROJECT DESIGN

PART III

PROJECT DESIGN

A. GENERAL PROCEDURES:

This project was designed (1) to assess the feasibility of a cooperative effort in which the state-supported institution shares video-tapes produced to provide laboratory experiences in the areas of teacher education with private liberal arts colleges, and (2) to determine the relative effectiveness of interaction analysis as a tool in viewing video-taped recordings of teaching-learning situations.

To accomplish the objectives of this project, sixteen private liberal arts colleges in Kansas were visited by a video-tape van, which was a mobile unit bearing a video-tape recorder, two television monitors and sound systems, and a battery of twenty-four pre-recorder, video-tapes designed to provide laboratory experiences in teacher education. Each of the participating schools had the opportunity to utilize the facilities of the video-tape van in its teacher education program for a period of one week. There were two separate instances in which two institutions located in the same geographical area cooperatively scheduled the viewing of video-tapes at one location. In total, the video-tape van scheduled fourteen one-week visits to the campuses of fourteen liberal arts colleges in Kansas.

B. POPULATION OF INSTITUTIONS

The inception of this project came as the result of a conference at the Teachers College, to which representatives of the seventeen private liberal arts colleges in Kansas were invited, about a year and a half prior to the project's beginning date. Sixteen of the seventeen representatives pledged support to a cooperative effort in teacher education using video-taped recordings. An advisory committee to the project was appointed, composed of two representatives from the Teachers College and five from the liberal arts institutions.

The sixteen private liberal arts colleges who participated in the project are deeply involved in teacher education. In 1964 they graduated 778 prospective teachers, 328 at the elementary level and 450 at the secondary level. This represents nearly one-fourth of all new teachers graduated by Kansas institutions. The sixteen institutions and their locations are:

Baker University, Baldwin, Kansas
Bethel College, North Newton, Kansas
College of Emporia, Emporia, Kansas
Friends University, Wichita, Kansas
Kansas Wesleyan University, Salina, Kansas
Marymount College, Salina, Kansas
McPherson College, McPherson, Kansas
Mount Saint Scholastica College, Atchison, Kansas
Ottawa University, Ottawa, Kansas
Sacred Heart College, Wichita, Kansas
Saint Benedict's College, Atchison, Kansas
Saint Mary College, Xavier, Kansas
Saint Mary of the Plains College, Dodge City, Kansas
Southwestern College, Winfield, Kansas

Sterling College, Sterling, Kansas

Tabor College, Hillsboro, Kansas

The geographical location of each of these institutions is shown in Figure I.

C. FACILITIES MADE AVAILABLE TO THE COOPERATING INSTITUTIONS

The following equipment was made available to the cooperating institutions for the purpose of viewing video-tape recordings:

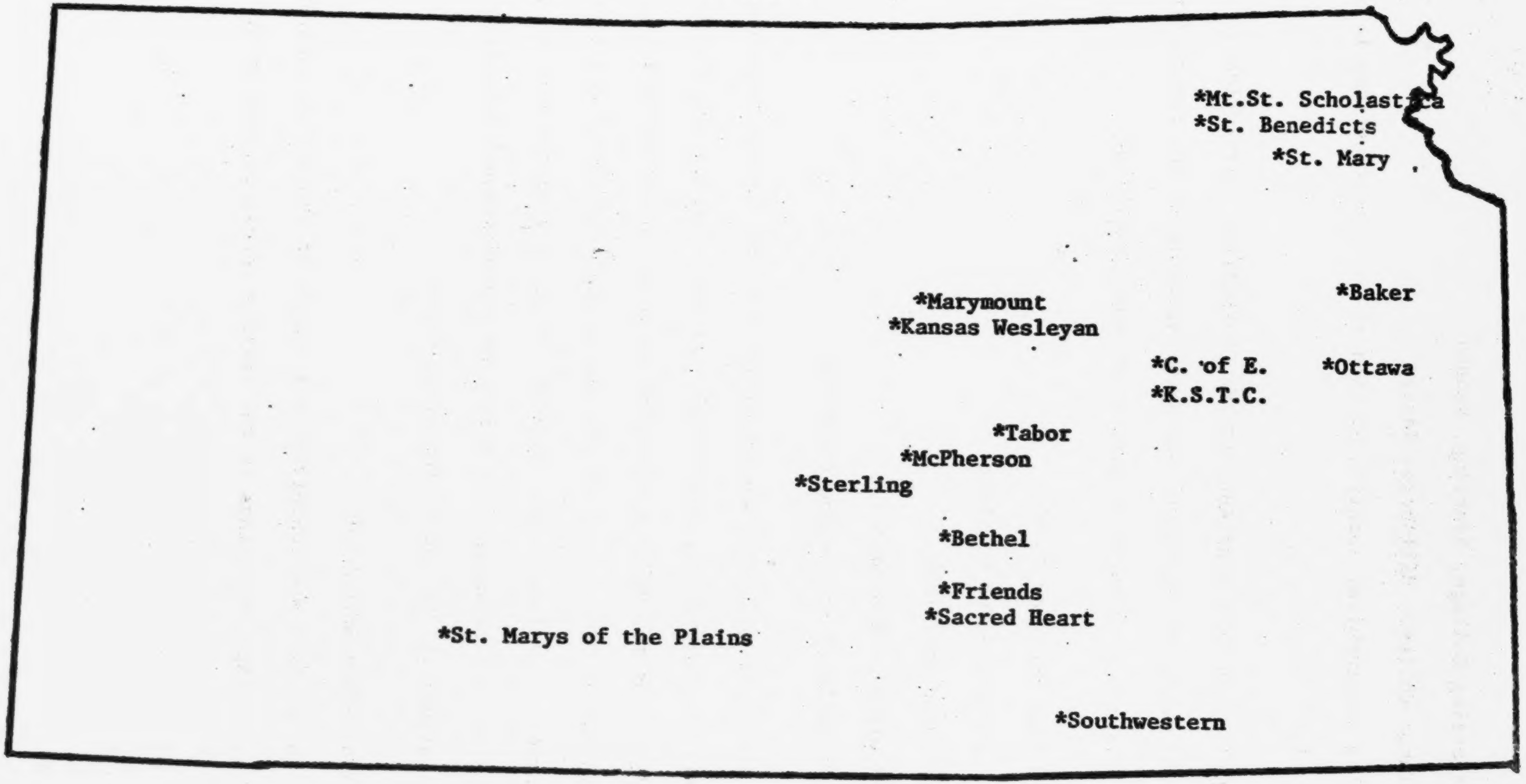
1 Dage recorder DZ 200
2 24-inch video monitors
1 sound amplifier
2 eight-inch speakers
24 reels of video-tape recording

The above equipment was transported to the cooperating institutions in a small van (chevrolet, sportsvan). At each institution, the video-tape equipment was set up in a classroom or in any other desired location which was suitable. The driver of the van, a staff member of the Teachers College, performed three functions. In addition to driving the van, he operated and maintained the equipment and served as a professional consultant to the institutions in the use of the video-tapes.

D. VIDEO-TAPE RECORDINGS

The project was conceived as a result of successful expermintation with video-tape recordings in the teacher education program at Kansas

FIGURE I


*Mt.St. Scholastica
*St. Benedicts
*St. Mary
*Baker
*Marymount
*Kansas Wesleyan
*C. of E.
*Ottawa
*K.S.T.C.
*Tabor
*McPherson
*Sterling
*Bethel
*Friends
*Sacred Heart
*St. Marys of the Plains
*Southwestern

State Teachers College. For a period of two years prior to the project, the Teachers College used closed-circuit television originating in the campus laboratory school to provide observation and demonstration for the benefit of pre-service teachers. The program was enthusiastically received by students, who reported it to be more profitable to observe the characteristics of children and adolescents than only to hear these characteristics described by an instructor. Of even greater value, according to students, was the opportunity to observe specific techniques of teaching, such as teacher motivation in small group discussions, the use of multisensory aids, the project approach to teaching, and examples of individualized instruction. Observation periods used in conjunction with follow-up seminar discussions proved most effective in working with pre-service teachers involved in this type of observation program.

A video-tape recorder had made it possible for the Education Department at the Kansas State Teachers College to stockpile, over a period of three years, carefully selected demonstrations and observations which contained meaningful substance. From this supply, the College prepared and edited a series of video-tapes to be used in its regular teacher education program.

Twenty-four of these video-tapes were selected for use in the project. These tapes range in length from twelve to fifty-five minutes, with a median length of about twenty minutes. The following is an alphabetical listing, according to instructor, of the twenty-four tapes used in the project. Included with each listing is the pertinent information concerning the quality, content and suggested use of each tape.

A List of Video-tapes Used in the Project

BIGGE, Jeanette and Cropp, David.

Class: Grades 7 and 8, Unified Studies
Length: 37 minutes
Audio: Fair
Video: Fair

BIBLIOTHERAPY: The two instructors work together to help the students comprehend the reality of the meanings and the incidents expressed in various poems and books. Bigge directs her discussion of books by asking questions and showing pictures, to which the students respond by citing examples from books which they have previously read. To show the reality of these reported incidents, Bigge then relates similar occasions which the students probably have experienced. In his discussion, Cropp uses scrambled quotations and the poems "The Pig," "Bubbles," and "The Flower in the Crannied Wall," by Carl Sandburg, Odgen Nash, and Alfred Lord Tennyson respectively.

TAPE DEMONSTRATES: Behavior characteristics of students and team teaching.

BIGGE, Jeanette.

Class: Grades 7 and 8, Unified Studies
Length: 20 minutes
Audio: Good
Video: Good

PROJECT CONTROL: Individual problem solving in social studies and language arts is demonstrated by a seventh grader using a tape recorder and various visual aids to discuss the various reasons why the Communists want South Vietnam; he supports his reasoning by giving some of South Vietnam's history. To supplement his discussion, he shows and explains a map which he has made of Vietnam and reads an original poem concerning Vietnam and the soldiers fighting there.

TAPE DEMONSTRATES: Behavior characteristics of students; use of multisensory aids with the individualized instruction method.

BIGGE, Jeanette.

Class:	Grades 7 and 8, Unified Studies
Length:	21 minutes
Audio:	Good
Video:	Fair

SURVIVAL: After introducing the topic of survival, the instructor guides the students in discussing freely such questions as "What does a great test of survival do for the character of man?", "Is man lessened or made greater?", "What is most important in regard to man's surviving a great trial?" In order to motivate discussion about decisions which man faces during various types of crises, the instructor reads excerpts from various types of literature. She does read the poem "Shangri La," and, as the class members listen to this description, three students go to the chalkboard and draw an interpretation of what they hear.

TAPE DEMONSTRATES: Thematic approach to literature through discussion; behavior characteristics of students; student motivation.

BIGGE, Morris.

Department:	Education (College)
Length:	55 minutes
Audio:	Good
Video:	Good

LEARNING THEORIES (Lecture #1): Dr. Bigge presents by lecturing a discussion of Stimulus-Response Associationism. He does this by comparing the theories of Response-Stimulus and Stimulus-Response.

BIGGE, Morris.

Department:	Education (College)
Length:	50 minutes
Audio:	Good
Video:	Good

LEARNING THEORIES (Lecture #2): Dr. Bigge presents a lecture on learning theories by discussing the Cognitive Field Approach to learning and its application to various educational situations.

BONNER, Mary.

Class: Reading - Grade 6
Length: 20 minutes
Audio: Good
Video: Good

READING: The teacher illustrates the use of flash cards for the study of vocabulary, with emphasis placed upon the diacritical markings of the words being studied. The use of classic comic books to motivate the students to read the original versions of classic novels is also demonstrated, and this exercise is then followed by one student's reporting on "The White Whale" in Herman Melville's Moby Dick. The instructor ends her class period by having the students use, on an individualized basis, either the SRA reading materials or a controlled reader.

TAPE DEMONSTRATES: Use of multisensory aids; student motivation.

CAMPBELL, Betty.

Class: Grades 7 and 8, Unified Studies
Length: 36 minutes
Audio: Good
Video: Good

STUDENT MOTIVATION: To motivate her students to select an individual problem for development, the instructor presents several areas of study from which the students might pick a topic for exploration. To do this, she develops several meaningful topics for research by involving the students in discussion, by motivation with the use of audio-visual aids.

TAPE DEMONSTRATES: Teacher guidance in problem-solving exercises; behavior characteristics of students; use of multisensory aids; student motivation.

CONROE, Margaret.

Class: Physical Education - Grade 8
Length: 12 minutes
Audio: Fair
Video: Fair

GIRLS PHYSICAL EDUCATION: The class begins by doing a series of physical exercises and then proceeds to a series of forward and backward rolls; at this same time, the instructor uses a record player to provide background music and rhythm. In the latter part of the film, the class members divide themselves into groups to work on various aspects of tumbling.

TAPE DEMONSTRATES: Group work.

CONROE, Margaret.

Class: Physical Education - Grade 7
Length: 15 minutes
Audio: Fair
Video: Fair

GIRLS PHYSICAL EDUCATION: The class begins with the students' jumping rope to the rhythm of the music being played in the background. The instructor then develops the thesis with the students that such an activity develops co-ordination as well as providing good physical exercise; the class then begins to work on various tumbling stunts as the students follow the directions of the teacher. Throughout the entire film, the students work well together and have enthusiasm for their program.

TAPE DEMONSTRATES: Student motivation.

CONROE, Margaret.

Class: Physical Education - Senior High
Length: 15 minutes
Audio: Fair
Video: Fair

GIRLS PHYSICAL EDUCATION: Each student shown in this film is doing independent work in the area of physical education in which she has the greatest interest. Distinctly shown are two groups--those who work on an individual basis completely, such as in diving; and those who prefer doing stunts that require team work, such as building pyramids. The instructor, who has a record player for providing musical background for the class's activities, assists each student as the need arises.

TAPE DEMONSTRATES: The project method.

CONVERSE, Norma.

Class: Reading - Grade 4
Length: 20 minutes
Audio: Good
Video: Good

INTRODUCTION OF SRA. The instructor discusses with her class the SQ3R method for attacking a reading problem (Survey, Question, Read, Recite, and Review). The students then use this method for analyzing an SRA reading lesson. A written test is given to the pupils by the instructor, who then allows each student to correct his own paper as she gives the correct responses. Thereby, the students learn to grade and to score their own tests.

TAPE DEMONSTRATES: Evaluation.

COUCH, Jerry.

Class: Science - Junior High Small Group
Length: 44 minutes
Audio: Good
Video: Fair

RAT EXPERIMENT: As the instructor dissects a rat, an informal discussion is held between the teacher and the pupils concerning the various bodily parts of the rat and the differences between mammals and other animals. During the dissection process, the students ask various questions; the instructor in turn requests certain members of the class to be responsible for presenting the answers on another day.

TAPE DEMONSTRATES: Behavior characteristics of students; use of multisensory aids; student motivation; inductive reasoning.

COUCH, Jerry.

Class: Science - Junior High
Length: 38 minutes
Audio: Good
Video: Fair

LIFE SCIENCE: The presentation begins with the instructor's criticizing his students' work habits; to allow them to prove their ability to work constructively, he then permits them to go unsupervised outside the school building, or to the school's library, to get materials for their individual projects. Those who remain in the classroom continue to work on their projects either by reading additional resources or by conferring with the instructor concerning their projects and their methods of presenting them to the class. The students demonstrate initiative and individual responsibility.

TAPE DEMONSTRATES: Behavior characteristics of students; use of multisensory aids; the project method.

COUCH, Jerry.

Class: Science - Junior High
Length: 38 minutes
Audio: Good
Video: Fair

FROG DISSECTION: This presentation shows groups of two or three students apiece dissecting a frog, a process which began two periods before the hour illustrated. Each group works independently of the others, and, as the students work, the instructor circulates among them to answer any questions that they might have and to stimulate curiousity and interest in their work.

TAPE DEMONSTRATES: Behavior characteristics of students; use of multisensory aids; student motivation; inductive reasoning; the project method.

CRAVENS, Mary.

Class: Reading - Grade 1
Length: 20 minutes
Audio: Poor
Video: Fair

INDIVIDUALIZED READING: Three different students come to the instructor's desk, each to read a different story for her; one of these students illustrates a special use of individualized reading, as he reads a story which the instructor herself prepared and typed for reading purposes. The entire class is then drawn into a reading situation as the teacher employs a canvas board in front of the room, and upon this board places sentences which various students read aloud. The entire class then discusses the meaning of the story.

TAPE DEMONSTRATES: Use of multisensory aids; guided discussion.

CROPP, David.

Class: Speech - Grades 7 and 8
Length: 18 minutes
Audio: Good
Video: Fair

SPEECH DEMONSTRATION: Three students from the class have left the classroom, and, in their absence, a fourth student hears the instructor read a small bit of information; this information is recorded onto a tape. One of the students sent into the hall then enters into the classroom and is told by the fourth student, as well as he can, the essence of the original information. This process continues until all three students have heard the information as told by the person who entered before they did; each conversation is in turn recorded on tape. Finally, the entire class listens to the original information and the reviews of each of the students' accounts to see how much the original story was altered with each telling. The students end the demonstration by discussing the purpose of such a teaching device.

TAPE DEMONSTRATES: Use of multisensory aids; inductive reasoning.

DOLD, Eva.

Class: Reading - Grade 3
Length: 20 minutes
Audio: Fair
Video: Fair

INDIVIDUALIZED READING: The class period begins with one student's reading a story to the instructor. Two other students follow the preceding activity by presenting individual oral reports on library books which they have recently read. To facilitate the presentations, each student uses various flannel board illustrations which he himself has made.

TAPE DEMONSTRATES: The project method.

HIGHLAND, Wanda.

Class: Reading - Grade 2
Length: 20 minutes
Audio: Fair
Video: Fair

INDIVIDUALIZED READING: To work most effectively with her slow readers, the instructor has each of these students select from a box of school supplies a rubber stamp upon which has been placed both a word and a pictorial representation of that term. The students then stamp the designs onto pieces of paper and are asked to write the words themselves and to prepare stories concerning the terms, for class discussion. Before the presentation is made, the instructor gives individualized attention to other students in the room, while her student monitors, the better readers from the class, continue to help the students who have reading problems throughout the entire class period.

TAPE DEMONSTRATES: Individualized instruction.

JONES, Francis.

Class: Physical Education - Grades 1-6
Length: 55 minutes (8-12 minutes for each grade)
Audio: Good
Video: Good

PHYSICAL DEVELOPMENT SEQUENCE: The instructor has the students from each class do approximately the same physical exercises. The emphasis is upon the physical development of each child's ability, and, consequently, little or no actual verbal instruction is done.

TAPE DEMONSTRATES: Individualized instruction.

LIVINGSTON, Carl.

Class: Reading - Grade 5
Length: 20 minutes
Audio: Fair
Video: Poor

PARAGRAPH STRUCTURE: The students, led by the instructor, develop seven or eight guidelines for the development of a meaningful and coherent paragraph; these guidelines are written upon the blackboard by one of the class members. The instructor then has each pupil write about a facet of some book which he has previously read; during this writing time, the instructor is available for individualized instruction.

TAPE DEMONSTRATES: The project method.

MARKOWITZ, Fred.

Class: English - Grade 12
Length: 43 minutes
Audio: Fair
Video: Good

PURSUIT OF EXCELLENCE: Instructions are given by the instructor for finding the thesis in a literary work; then he asks the students to write a composition comparing two essays and discussing which of the two presents the more valid view of a particular subject. To illustrate the purpose of such an assignment, the instructor gives examples of both contemporary and classical writers who have written on the theme of "excellence." As various students read some of the definitions of the word "excellence," other students add their personal interpretations. As a result, the students are motivated and display enough interest to defend a point of view in their own papers.

TAPE DEMONSTRATES: Inductive reasoning; the project method; thematic approach to teaching literature; guided discussion.

MUMMEY, Thomas.

Class: Science - High School
Length: 20 minutes
Audio: Good
Video: Good

CONDUCTION OF ELECTRICITY - A DEMONSTRATION: The instructor performs an experiment to demonstrate the conduction of electricity through various solutions. To prove that a solution must ionize to conduct an electrical current, but that not all solutions ionize equally, the instructor employs an electric light bulb whose brightness shows the degree of ionization in the solution. During the demonstration, an informal discussion is conducted among the students and the instructor concerning the various aspects of ionization.

TAPE DEMONSTRATES: Use of multisensory aids; inductive reasoning; lecture - demonstration.

MUMMEY, Thomas.

Class: Science
Length: 16 minutes
Audio: Good
Video: Good

EARTH SCIENCE - STUDENT DEMONSTRATION: The presentation begins with all students, and the instructor, enjoying a good laugh. Then, when everyone is relaxed, the students participate in an experiment to demonstrate the theory of compressed air and its application. In one experiment, a stream of air is directed over a piece of paper which is attached to a cigar box.

TAPE DEMONSTRATES: Behavior characteristics of students; use of multisensory aids; inductive reasoning.

TUBACH, Lee.

Class: Language - Spanish
Length: 10 - 15 minutes for each grade
Audio: Good
Video: Good

SEVENTH, EIGHTH, & NINTH GRADE SPANISH: The instructor utilizes various techniques to motivate the students to learn the language being studied; by this motivation, the students gain confidence in their ability to speak Spanish. The teacher demonstrates an ability to maintain class interest, since the students from each class respond eagerly to all questions asked.

TAPE DEMONSTRATES: Use of multisensory aids.

E. SCHEDULING

Representatives of the participating institutions were invited to the campus of the Teachers College in the early part of the fall semester for a day of orientation to the project, and for previewing video-tapes. With a knowledge of the taped classroom situations available, each department chairman completed a tentative schedule for a week of video-tape viewing that would best serve the teacher education program at his institution (See Appendix E). The schedule, along with several alternative one-week time blocks that were suitable for video-tape viewing, was submitted to the project director by each education department chairman of the liberal arts colleges. With this information, it was possible to plan fourteen one-week visits that were suitable with respect to the cooperating institution and with respect to the availability of the video-tape equipment. Each education department chairman was notified well in advance concerning the dates the video-tape van would be at his institution, so that plans could be made for maximum use of the video-tape facilities.

F. INTERACTION ANALYSIS SUBGROUPS

Five institutions were selected at random to have one or two of their teacher education classes introduced to Flanders' System of Interaction Analysis (See Appendix A) prior to their experience of viewing video-tape recordings. The ten categories of Flanders' System were presented to these classes as a tool for direct classroom observation. The total time of the presentation was approximately two hours. Understanding of the structure of classroom behavior and the ability to detect direct and indirect patterns of influence were emphasized, rather than proficiency in recording categories of classroom behavior. Students in these classes were encouraged to use interaction analysis as a tool in their video-tape viewing by attempting to classify different types of classroom behavior patterns. Reactions to the value of video-tape in teacher education of the subgroup with the above treatment were compared with the reactions of students not introduced to interaction analysis.

G. EVALUATION

The three sources of evaluation of this project were (1) the reactions of the students who viewed video-tape recordings, (2) the response of the chairman of the education department in each participating institution, and (3) the observations of the driver-technician who worked directly with each of the institutions.

The feasibility of a cooperative effort in the use of video-tape recordings and equipment was assessed (1) from the responses to the Cooperative Project Questionnaire completed by each education department chairman (See Appendix C), (2) from spontaneous written evaluation and comments received by the Teachers College from participating institutions, and (3) from the Cooperative Project Evaluation Form completed by the driver-technician (See Appendix D) from the daily log of video-tape viewing schedules, reactions of students and faculty, and comments regarding the performance of the equipment.

An eight-item questionnaire was completed by the driver-technician to quantify the data contained in the daily log and to assess more objectively the acceptance of video-tape recordings by the participating institutions. A copy of the questionnaire is presented in Appendix D. The first four items of this instrument required a response for each institution. The last four items were more general in nature and required the technician to reflect on his experience with the entire project.

The primary function and the value of viewing video-tapes as a laboratory experience in teacher education were determined from the responses to the Video-Tape Opinionnaire which contained thirty-five four-option items (See Appendix B). Each student who participated in the project completed the above opinionnaire both before viewing video-tape recordings and again after viewing.

The effectiveness of the mobile unit in providing experiences with CCTV to institutions without these facilities was evaluated from the reactions of the driver-technician who worked directly with the equipment. Since the beginning of the project, however, the cost of CCTV equipment has been lowered to a level that is within the reach of almost every institution. Consequently, this aspect of the evaluation has limited value for future projects.

To determine the value of interaction analysis as a tool in viewing video-tape recordings of actual classroom situations, the post-test scores on the Video-Tape Opinionnaire of students who had been introduced to interaction analysis were compared with the post-test scores of students who had not been introduced to interaction analysis.

H. STATISTICAL MEASURES

Standard forms of statistical measures were used to analyze the numerical data obtained in this study. A coefficient of correlation was used to test the interrelation of items on the Cooperative Project Questionnaire as well as the relationship of the responses to the items on the Cooperative Project Questionnaire with the responses to the items on the Cooperative Project Evaluation Form.

A t-test of difference between means was employed to analyze the change in the Students' total score on the Video-Tape Opinionnaire as a result of viewing video-tape recordings. This statistic was also used to compare the scores of students with and without interaction analysis after their experience with video-tape viewing.

PART IV

THE DATA

PART IV

THE DATA

The data obtained in the evaluation phase of this project was of two types. The first type included the general impressions and comments that were verbalized and written by various individuals associated directly and indirectly with the project. Although this type of data influences to some degree the comments that will be made in the analysis and conclusion sections of this report, this data is subjective in nature and difficult to quantify. The second type of data was obtained from responses to instruments completed by department chairmen, the driver of the video-tape van, and the students who viewed video-tape recordings. This data is more objective than the former and has been quantified and summarized for presentation.

A. RESPONSES OF THE EDUCATION DEPARTMENT CHAIRMEN

The responses to the ten items of the questionnaire completed by the chairmen of the education departments in each of the participating liberal arts colleges are presented below. The complete questionnaire is presented in Appendix C.

Item #1. Assuming that you have or were able to secure video-tape equipment at your school, do you feel it is feasible for a liberal arts college to cooperate with a state institution in the use of video-tape recordings?

Number Responding	Response
6	a. Very definitely, without reservation.
7	b. Yes, but with the recognition that certain problems definitely exist in this type of arrangement.
2	c. It would depend to a large extent whether or not certain problems could be worked out to the satisfaction of the institutions involved.

1	d. The idea has merit, but the magnitude of the problems involved probably outweighs the value of this type of a venture.
0	e. No. The problems of cooperation between state and private institutions in this type of project are almost insurmountable and any efforts to promote this type of arrangement would be unwise.

Item #2. Do you feel that the facilities and personnel of the laboratory school at Kansas State Teachers College are suitable for the production of video-tapes that are valuable in teacher education programs?

Number Responding	Response
3	a. Extremely well suited for this purpose.
7	b. Generally suitable, with some recognizable limitations.
6	c. Generally acceptable, but really no more suitable than the facilities of a public school.
0	d. The facilities of the laboratory school are probably less suitable than the public schools for the production of valuable video-tapes.
0	e. The laboratory school's facilities are definitely not suitable for the production of video-tapes for use in teacher education programs.

Item #3. Do you feel that video-tapes of actual classroom situations are an effective means of providing meaningful experiences in pre-professional training?

Number Responding	Response
7	a. Extremely effective.
9	b. Effective, but they definitely have limitations.
0	c. Useful, but not more so than other alternatives which are more feasible for liberal arts colleges than the acquisition of video-tape equipment and good video-tapes.
0	d. Although some benefits can be derived from having students observe classroom situations via video-tapes, it is generally not worth the time and effort that this activity requires.
0	e. Video-tapes provide little or no opportunity for meaningful experiences in teacher education programs.

Item #4. Was there general acceptance by your educational faculty of video-taped recordings as a valuable tool in a teacher education program?

Number Responding	Response
6	a. Almost unanimous acceptance.
7	b. Acceptance, with some reservation.
3	c. In general, a very mixed reaction to video-taped recordings.
0	d. Some acceptance, but the feeling of the majority was that video-taped recordings were not too valuable as tools in a teacher education program.
0	e. General non-acceptance of video-taped recordings.

Item #5. How much interest was shown in video-tape facilities as a valuable tool for instruction by departments other than teacher education in your college or university?

Number Responding	Response
3	a. Interest was extremely high.
6	b. Some general interest shown by certain departments.
3	c. A mixed reaction from various departments concerning the value of video-tape.
3	d. No reaction, or a slightly negative reaction, was obtained from departments other than teacher education.
1	e. A general negative reaction by departments to the value of video-tape as a tool for instruction.

Item #6. Have steps been taken at your school to procure video-tape equipment?

Number Responding	Response
2	a. We have video-tape equipment in operation at our school, or we have access to video-tape equipment at our school.
0	b. We definitely plan to purchase video-tape equipment within the next year.
7	c. We have applied for funds to purchase video-tape equipment.

6	d. We have talked about the possibility of getting video-tape equipment, but no further action has been taken.
1	e. No steps have been taken to procure video-tape equipment, or we do not plan to procure video-tape equipment at our institution.

Item #7. What influence, if any, do you feel the visit of the video-tape van had on the action you reported in item six?

Number Responding	Response
1	a. The visit of the video-tape van was almost entirely responsible for our action.
6	b. The visit was one of the major influences.
8	c. The visit probably had some influence.
0	d. The visit had little or no influence on our action.
1	e. The visit probably had a negative influence on any action we might have taken.

Note: Unlike the other items in this questionnaire, items 8 and 9 required the respondents to write out their reactions to the stated question rather than selecting one of five options. Where possible, the written statements of the strengths and weaknesses of video-tape have been grouped and are presented following items 8 and 9 respectively.

Item #8. What do you consider to be the two greatest strengths of video-tape as a tool in teacher education programs?

Number of Respondents Listing the Strength	Strengths of Video-tape
6	a. Provides opportunity for the student teacher to see himself in action.
6	b. Provides the student the opportunity to observe a wide variety of situations.
4	c. Specific teaching concepts and situations can be selected for viewing.
4	d. Provides the opportunity for immediate student reaction to and discussion of a teaching situation, a concept, or a skill.

3	e. Brings the classroom to the pre-service teachers.
2	f. Provides the opportunity to relate theory to practice.
2	g. Provides opportunity to evaluate teaching performance.
1	h. Prevents overcrowding classrooms with observers.
1	i. Provides opportunities to see master teachers in action.

Item #9. What do you feel are the two most serious limitations of video-tape?

Number of Respondents Listing the Weakness	Weakness of Video-tape
7	a. Cost of equipment and maintenance.
5	b. The impossibility of recording the total environment of the classroom--video-tape is a second hand experience.
4	c. Skilled technician is needed to operate and maintain equipment.
3	d. Technical difficulties; poor audio, poor video, etc.
3	e. Difficulty of obtaining desired classroom situations in natural settings.
2	f. Difficulty of obtaining the desired classroom situations for viewing at the right time.
1	g. Tapes are not interchangeable with machines from different manufacturers.
1	h. Poor orientation to tapes in the project.
1	i. No opportunity to discuss the teaching method demonstrated on the video-tape with the teacher who was taped.

Item #10. Would you invite further cooperation in projects that would make video-tape available to your school?

5	a. Definitely, with reservation.
7	b. Yes, provided it would not seriously conflict with our on-going teacher education program.
4	c. This would depend to a large degree on the nature of the project, scheduling, and value of the project to our teacher education program.

0	d. Probably not, due to the fact that either video-tapes are not suitable to our teacher education program or that adding to our present program presents serious scheduling problems.
0	e. Definitely not.

B. RESPONSES OF THE DRIVER-TECHNICIAN

The responses to the first four items of the Cooperative Project Evaluation Form completed by the driver-technician are given below. The complete questionnaire is given in Appendix D. The responses for the four items concerning each participating institution were based on the daily log kept by the driver-technician as well as on his observations while visiting each institution.

Item #1. Was there general acceptance of the CCTV project and an enthusiasm shown for the potential of video-tape as a tool in teacher education programs?

Number of Institutions Where Responses Applied	Response
6	a. Almost unanimous acceptance.
5	b. General acceptance, with some reservation shown individually or collectively.
5	c. A somewhat mixed reaction to the project and video-tape.
0	d. The project was tolerated, but in general not welcomed.
0	e. There was definitely a general negative reaction to the project during the visit of the video-tape van.

Item #2. From your observation did the students appear to be "primed" for the video-tape presentation prior to the visit of the van?

Number of Institutions Where Responses Applied	Response
0	a. It was obvious that the project had been given a good deal of promotion prior to the visit of the video-tape van.
6	b. Most of the students had been introduced to the project but did not appear to have been indoctrinated with the pros and cons of video-tape.
6	c. It was difficult to tell whether the students had been introduced to the project or not.

4	d.	probably there had been no introduction to the project or video-tape prior to the visit of the van.
0	e.	There appeared to be a slightly negative reaction to the project, promoted prior to the visit.

Item #3. In your opinion, were the video-tapes shown used for a specific purpose in a planned program?

Number of Institutions Where Responses Applied		Response
4	a.	In general, specific tapes were requested for specific purposes, and a follow-up discussion or a follow-up assignment was initiated by the teacher.
8	b.	Certain tapes were requested, but little if any follow-up was initiated by the teacher.
3	c.	Students came to watch video-tape by classes, but no specific tapes were requested.
1	d.	Students with varying teaching interests were assigned to view tapes at one time with no apparent plan or program.
0	e.	Students came and went as they pleased simply to fill a time obligation.

Item #4. Approximately how many hours of video-tape viewing were scheduled at this institution?

Institution	Number of Hours
A	18
B*	26
C*	3
D	20
E	14
F	13
G*	15
H*	15

* Students from both schools were combined for video-tape viewing.

I	20
J	6
K	26
L	33
M	15
N	14
O	15
P	13

The responses to the last four items are more difficult to quantify and will not be presented in this section. These responses will, however, be discussed in the analysis of data.

C. RESPONSES OF STUDENTS WHO VIEWED VIDEO-TAPE RECORDINGS

Table I shows the percent of students responding to each of the four options for each of thirty-five items of the Video-Tape Opinionnaire. A copy of this instrument is presented in Appendix B. The pre-test score indicates the responses of students prior to video-tape viewing, whereas the post-test score indicates the responses after video-tape viewing. The post-test interactional analysis scores indicate the responses of the students who had been introduced to Flanders' System of Interaction Analysis, after viewing the video-tapes. A sample of students in five institutions was given this special treatment.

TABLE I

PERCENT OF STUDENTS RESPONDING TO EACH OF THE FOUR OPTIONS OF THE ITEMS ON THE VIDEO-TAPE OPINIONNAIRE

Pre-test N = 1303 Post-test non IA N = 1023 Post-test IA N = 231

ITEM		PERCENT			
Video-tapes can:	Group*	Agree	Agree with Reservation	Disagree with Reservation	Disagree
1. expand my perceptions of teacher behavior.	pre-test	60.3	31.9	5.5	2.2
	post-test non IA	62.2	30.2	4.8	2.8
	post-test IA	80.0	18.3	0.9	0.9
2. aid in the development of concepts	pre-test	58.1	35.4	4.8	1.6
	post-test non IA	45.1	41.3	9.4	4.2
	post-test IA	49.1	43.5	5.2	2.2
3. increase the capacity for interpretation.	pre-test	47.1	40.0	10.1	2.8
	post-test non IA	39.6	42.5	13.2	4.7
	post-test IA	45.2	46.5	4.8	3.5
4. expand the content of teacher education.	pre-test	58.5	32.2	6.7	2.5
	post-test non IA	50.8	34.6	9.9	4.7
	post-test IA	54.8	33.9	7.4	3.9

* pre-test group--composite of all students who completed the Video-Tape Opinionnaire before video-tape viewing.

* post-test non IA--composite of all students without interaction analysis training who completed the Video-Tape Opinionnaire after video-tape viewing.

* post-test IA--composite of all students with interaction training who completed the Video-Tape Opinionnaire after video-tape viewing.

Table I (cont.)

25. allow me to record the number and regularity of student responses to teacher and also record student-initiated activity for future interpretation.	pre-test	38.8	41.4	15.3	4.5
	post-test non IA	37.6	40.2	15.1	7.1
	post-test IA	63.3	29.3	6.1	1.3
26. help me see ways a student reveals tension or boredom.	pre-test	39.6	44.7	11.7	4.0
	post-test non IA	34.7	37.6	17.1	10.6
	post-test IA	34.1	45.4	14.0	6.6
27. help me see how self-confidence or lack of it may show in a student's behavior.	pre-test	41.5	44.5	9.8	4.2
	post-test non IA	39.7	39.2	15.1	6.0
	post-test IA	37.6	48.5	10.9	3.1
28. help me study one individual closely for a period of time.	pre-test	34.7	33.5	18.9	12.9
	post-test non IA	33.0	25.4	19.5	22.1
	post-test IA	28.4	31.4	19.7	20.5
29. distinguish between autocratic and democratic teacher behavior.	pre-test	40.2	40.3	13.9	5.6
	post-test non IA	40.6	38.3	14.8	6.4
	post-test IA	53.3	36.6	7.0	3.1
30. distinguish between uninteresting monotonous teaching and stimulating teaching.	pre-test	56.7	32.7	8.2	2.4
	post-test non IA	63.7	25.3	8.2	2.8
	post-test IA	69.0	27.9	1.7	1.3

Table I (cont.)

19. effectively point out cultural influences on the classroom situation.	pre-test	20.4	47.4	24.1	8.1
	post-test non IA	19.2	38.1	25.7	17.0
	post-test IA	17.5	40.6	30.6	11.4
20. show application of learning theories.	pre-test	52.1	38.6	7.3	2.1
	post-test non IA	47.9	39.2	9.3	3.6
	post-test IA	49.8	38.9	10.0	1.3
21. help me understand about professional relationships of the teacher.	pre-test	27.4	42.1	20.0	10.4
	post-test non IA	26.3	37.8	19.5	16.4
	post-test IA	31.4	37.1	17.9	13.5
22. be an advantage in that they may be stopped at any time for discussion and not lose the trend of activities.	pre-test	64.0	24.0	8.0	4.0
	post-test non IA	70.2	21.1	5.2	3.4
	post-test IA	73.8	20.5	3.9	1.7
23. provide a more relaxed atmosphere for observation than a visit to an actual classroom.	pre-test	51.0	29.7	11.9	7.4
	post-test non IA	52.2	27.6	10.9	9.3
	post-test IA	52.0	25.8	13.5	8.7
24. be as effective as direct observation.	pre-test	11.5	28.4	27.0	33.2
	post-test non IA	10.5	25.3	26.5	37.8
	post-test IA	9.6	23.6	24.9	41.9

Table I (cont.)

12. help our understanding of school problems outside the classroom being viewed.	pre-test	32.6	36.6	18.6	12.2
	post-test non IA	24.6	30.2	23.4	21.8
	post-test IA	22.6	34.2	20.9	22.2
13. help relieve my feeling of "fear of children" or "fear of the classroom."	pre-test	13.4	33.7	26.2	26.7
	post-test non IA	13.8	31.4	25.5	29.3
	post-test IA	13.5	31.9	33.6	21.0
14. help reveal the nature of the learning process.	pre-test	40.4	46.4	10.1	3.1
	post-test non IA	35.2	45.5	12.7	6.6
	post-test IA	43.0	41.3	13.5	2.2
15. help develop insights into the roles of the teacher.	pre-test	55.9	35.0	7.5	1.5
	post-test non IA	55.7	33.7	7.5	3.1
	post-test IA	69.6	25.2	4.8	0.4
16. help develop an understanding of the history of education.	pre-test	18.5	29.4	27.3	24.8
	post-test non IA	9.8	22.9	27.5	39.8
	post-test IA	7.4	14.8	27.8	50.0
17. help me develop a philosophy of education.	pre-test	19.9	42.6	22.7	14.7
	post-test non IA	18.7	41.5	24.8	15.0
	post-test IA	16.6	42.8	28.4	12.2
18. help me detect and understand about deviate pupil behavior.	pre-test	26.6	49.9	16.3	7.3
	post-test non IA	20.8	42.5	22.2	14.6
	post-test IA	21.8	43.7	24.9	9.6

Table I (cont.)

5. inter-relate the existing content of teacher education.	pre-test	44.6	43.3	9.3	2.7
	post-test non IA	43.9	41.1	12.0	3.0
	post-test IA	44.3	47.8	6.5	1.3
6. effectively replace the regular college education teacher.	pre-test	1.2	3.8	17.8	77.2
	post-test non IA	1.6	4.8	15.9	77.7
	post-test IA	1.7	3.5	18.7	76.1
7. enrich the college education class situation.	pre-test	57.1	33.6	6.8	2.5
	post-test non IA	49.2	32.6	11.9	6.3
	post-test IA	55.7	32.6	7.8	3.9
8. effectively reveal characteristics of adolescents.	pre-test	17.5	48.2	25.7	8.6
	post-test non IA	20.1	42.2	24.9	12.8
	post-test IA	12.6	52.6	26.5	8.3
9. help assess the total class climate in the particular class being viewed.	pre-test	26.8	45.2	20.8	7.2
	post-test non IA	27.1	41.1	20.9	10.9
	post-test IA	32.2	48.3	15.2	4.3
10. reveal the extent to which the television teacher attained his goals for the lesson.	pre-test	18.2	43.4	26.6	11.9
	post-test non IA	24.1	42.6	23.7	9.7
	post-test IA	25.7	50.4	17.8	6.1
11. develop a base for understanding the theoretical content of teacher education.	pre-test	26.0	49.5	19.4	5.1
	post-test non IA	25.8	49.9	16.8	7.5
	post-test IA	30.1	47.2	18.3	4.4

Table I (cont.)

31. reveal both apathetic and alert student behavior.	pre-test	48.2	42.9	6.1	2.8
	post-test non IA	45.0	38.6	11.7	4.8
	post-test IA	47.6	41.0	9.6	1.7
32. reveal systematic vs. disorganized teacher behavior.	pre-test	52.1	36.0	8.8	3.0
	post-test non IA	50.5	35.6	8.5	5.4
	post-test IA	62.0	30.6	5.7	1.7
33. prove more interesting than straight lecture.	pre-test	53.3	30.7	11.1	4.9
	post-test non IA	46.5	30.9	12.4	10.2
	post-test IA	57.6	30.1	7.0	5.2
34. provide information more meaningful than that gained from reading and lectures.	pre-test	35.4	44.8	15.7	4.0
	post-test non IA	32.1	43.1	15.9	8.9
	post-test IA	41.9	38.9	13.1	6.1
35. provide some information in teacher education more effectively than any other method.	pre-test	38.7	42.2	13.8	5.3
	post-test non IA	35.0	38.0	18.6	8.4
	post-test IA	37.1	37.6	17.0	8.3

PART V

ANALYSIS AND DISCUSSION

PART V

ANALYSIS AND DISCUSSION

The four objectives stated in Part I of this report will be achieved by combining the numerical analysis of the data presented in Part IV with the observations of experienced education personnel who were closely associated with the project. The data will be analyzed and discussed as it relates to each of the specific objectives.

A. THE FEASIBILITY OF A COOPERATIVE PROJECT

The first objective was to assess the feasibility of a cooperative project in the use of video-tape recordings between a state institution and private liberal arts colleges. The three major factors considered that could determine success or failure for a cooperative venture of this type were (1) inherent problems due to differences in philosophy, differences in administration, and differences in programs of state and private institutions; (2) the acceptance or non-acceptance of video-tape as a valuable tool in teacher education by the liberal arts colleges; and (3) the suitability of video-tape equipment for use in a cooperative program between institutions. The Cooperative Project Questionnaire completed by the education department chairmen and the Cooperative Project Evaluation Form completed by the driver-technician were designed to examine the above three factors. A tabulation of each of the items on these two instruments was presented in Part IV, pages 36-43.

1. Analysis of the items on the Cooperative Project Questionnaire.

Item one - the feasibility of cooperation between a liberal arts college and a state institution in the use of video-tape recordings - was given a positive response by 13 of the 16 department chairmen. Two respondents were neutral, while one respondent felt that, although the idea has merit, the problems probably outweigh the value of this type of venture. Even though 7 of the 13 who responded postively recognized some inherent problems in a cooperative arrangement, the high proportion of positive responses attests to its feasibility. The coefficient of correlation between the responses to item one (feasibility) and item ten (support for possible future cooperative projects) was r = .58, significant at the .05 level. This suggests that those department chairmen who gave a positive response to item one were also likely to invite other cooperative projects in the use of video-tape recordings.

Item two - the suitability of the facilities and personnel of the laboratory school at the Teachers College for the production of video-tape recordings - was given 10 positive and 6 neutral responses. Three of the department chairmen who gave neutral responses listed the difficulty of obtaining desired classroom situations in natural settings as one of the two most serious limitations of video-tape. This supports the feeling expressed by some individuals involved with this project that more tape recordings of "typical" public school classrooms were needed.

Item three - the effectiveness of video-tape as a tool in teacher education - was given a positive response by all sixteen department chairmen. Of the eight five-option items on the Cooperative Project Questionnaire, item three received the most positive responses. The coefficient of correlation between the responses by the department chairman to this item and the total number of hours of video-tape viewing at his institution was r = .62, significant at the .01 level. This suggests that the number of hours of video-tape viewing had an effect on the department chairman's conception of video-tape, or that his conception of video-tape influenced the extent to which video-tape was used in the project.

Item four - the general acceptance of video-tape recordings as a tool in teacher education programs - was given 13 positive responses and 3 neutral responses. The responses to this item correlated positively with other items of the Cooperative Project Questionnaire, as well as with items on the Cooperative Project Evaluation Form. Table II shows the coefficients of correlation of item four with several other items on the above instruments. The relatively high correlation coefficients of item four with item five and with item ten were expected. It would seem logical that the acceptance and enthusiasm for the video-tape project measured by item four would carry over to other departments. Regarding item ten, one would predict that, if there were general acceptance of video-tape, there would also be a willingness to cooperate in future projects.

The coefficient of correlation ($r = .50$) of item four on the Cooperative Project Questionnaire with item one on the Cooperative Project Evaluation Form suggests that there was some degree of reliability in the perception of the department chairmen and in that of the driver-technician with regard to the acceptance by the education faculty of video-tape recordings. The fact that the responses to item four of the Cooperative Project Questionnaire and item one of the Cooperative Project Evaluation Form ranged over only three of the five-option items, contributed to the difficulty of obtaining a relatively high positive value for the coefficient of correlation r.

The last factor correlated with the education department's acceptance, as shown in Table II, was the number of hours of video-tape viewing by a participating institution during the visit of the video-tape van. This was significant at

TABLE II

CORRELATION OF EDUCATION FACULTY ACCEPTANCE OF VIDEO-TAPE RECORDINGS WITH SIX OTHER FACTORS

Factor	Item	Instrument	r	Level of Significance
Interest shown in video-tape by departments other than education	5	CPQ*	.71	.01
Steps taken to procure video-tape equipment	6	CPQ*	.50	.05
Invitation to further cooperative projects	10	CPQ*	.66	.01
The perception of the driver-technician of how the project was accepted	1	CPEF**	.50	.05
Planned program in the use of video-tape by the institutions	2&3	CPEF**	.39	ns
Hours of video-tape viewing by students at an institution	4	CPEF**	.49	.05

* The Cooperative Project Questionnaire completed by education department chairmen

** The Cooperative Project Evaluation Form completed by the driver-technician the .05 level. This figure would indicate that those education departments which showed more acceptance of video-tape as a tool in teacher education made more extensive use of this medium in the project. The reverse, however, may also have been true. A more extensive use of video-tape may have contributed to a more positive acceptance of the medium.

Item five - the interest in video-tape shown by departments other than teacher education - was given 9 positive responses, 3 neutral responses, and 4 negative responses. Although the correlation of this item with item four (acceptance by the education faculty) was quite high ($r = .71$), the overall response to item five was much less positive.

Items six and seven indicated an attempt to assess the steps taken by each participating institution to procure video-tape equipment, and to determine the extent to which the visit of the video-tape van influenced their course of action. At the inception of the study, the cost of video-tape recorders and other necessary equipment for using video-tape recordings was prohibitive for most private liberal arts colleges. The idea of a video-tape van that would carry one set of equipment to a number of private liberal arts colleges was an attractive alternative to each school's buying its own equipment. During the past two years, however, improved technology and increased production have reduced the cost of video-tape recorders to within what most small liberal arts colleges can afford. Also during the past two years, federal funds were made available to colleges in Kansas for this type of equipment. It was hoped that this project would stimulate interest in the media of closed-circuit television and video-tape recordings to the extent that each institution would make application for funds to purchase the necessary equipment. At the close of the project in March, 1967, two respondents indicated they had purchased video-tape equipment at their schools. One of these respondents said that the visit of the video-tape van had been a major influence in the institution's course of action, while the other respondent said that the visit probably had some influence. Seven of the department chairmen reported that they had applied for funds to purchase video-tape equipment. Of these seven, four said the visit of the video-tape van was a major influence in their course of action. The other three department chairmen felt the visit of the van had some influence. At the time this report was written, at least three of the seven schools which had applied had received grants to purchase video-tape equipment. Seven of the department chairmen from the participating institutions indicated that, although no action had been taken, they had talked about this possibility. One department chairman indicated that the institution definitely did not plan to acquire video-tape equipment.

Item eight required the respondent to list the two greatest strengths of video-tape as a tool in teacher education programs. These strengths were grouped into nine categories and are listed in the presentation of the data pages. The most frequent responses in these nine categories can be grouped into two major areas. The greatest area of strength of video-tape, according to the department chairmen, is that it provides the opportunity to bring to the pre-service teacher a variety of selected teaching situations which can be stopped for discussion as well as for students' reactions and replayed at the discretion of the teacher. The second major area of strength indicated by the education department chairmen's responses is that video-tape provides an opportunity for the student teacher to obtain feedback through the viewing of the video-tape recording of his teaching. It is interesting to note that, even though the aspect of video-taping and replay was not demonstrated in this project, it was listed by six department chairmen as one of the two greatest strengths of video-tape.

Item nine required the department chairmen of the participating institutions to list the two most serious limitations of video-tape. The written statements were grouped into nine seperate categories. These are listed in the order of their frequency on page 40 of this report. From a close examination of the limitations most frequently mentioned by the department chairmen, it is evident that the limitations given fall into two general types. The first type is due to the nature of video-tape equipment: it is expensive; it provides only second-hand experiences; a technician is needed to operate the equipment; recorders by different manufacturers do not have interchangeable tapes, etc.

The second type of limitations exists mainly because of the manner in which the project was carried out or because of limitations which could be minimized with time, provided that adequate funds and personnel were available. This type of limitation included items such as technical difficulties due to poor video, difficulty of obtaining natural settings, the difficulty of being able to view the right tape at the right time, and the difficulty of obtaining recordings which show as much of the total classroom environment as possible.

The foremost limitation, according to the department chairmen, was the cost factor. Since the inception of this project, the cost of quality video-tape recorders has been lowered to about 1/3 the cost of recorders two years ago. This reduction has done much to change the cost factor limitation. Several of the limitations mentioned by the department chairmen will tend to be less of a problem with time, as new methods and techniques of video-tape recording are developed. For example, one of the limitations of video-tape mentioned by the department chairmen concerns technical difficulties with the equipment such as poor audio and/or poor video reception. Some of the first video-tape recordings made by the Teachers College were of inferior quality to some extent, due to lack of experience with the medium. Later tapes show a marked improvement in quality. Because it was almost impossible to reconstruct for taping purposes specific classroom situations which happened to have been recorded with poor quality audio or video, some of the tapes used in this project were included primarily for the teaching situation demonstrated. This situation may have influenced some of the participants in the project to assume that poor quality is an inherent limitation of video-tape. Experience in producing video-tape recordings at the Teachers College has shown this assumption to be incorrect.

Item ten - the possibility of further cooperation in projects that would make video-tape available to the school - received 13 positive responses, 3 neutral responses and no negative response. The three department chairmen who gave a neutral reply to item ten all indicated a neutral response to item four (education faculty acceptance of video-tape) and a negative response to item five (interest shown by other departments).

On the other hand, all thirteen department chairmen who gave positive responses to item ten responded positively on item four. It should be recalled that there was a relatively high correlation between item four and item ten (r = .66). This indicates that, in institutions where there was acceptance of video-tape by the education faculty, further cooperation in similar projects was welcomed. Where there was less acceptance, future projects would be given little support. The specific factors which influenced acceptance or non-acceptance were not clear from the results of this study.

2. Analysis of the items on the Cooperative Project Evaluation Form.

The responses to the Cooperative Project Evaluation Form enable an examination of the project from the standpoint of a representative of the Teachers College, specifically the driver-technician who worked closely with all phases of the project and with each participating institution. The responses to items one through four are presented in tabular form in Part IV, pages 41-43 of this report.

Item one - acceptance of the project and the potential of video-tape as a tool in teacher education programs - was given a positive response for 12 institutions and a neutral response for 4 institutions. It should be recalled that the same question posed to the department chairmen concerning their education faculty was given 13 positive responses and 3 neutral responses. The relatively high correlation between the perception of the driver-technician and the department chairmen with respect to the acceptance of video-tape ($r = .50$, significant at the .05 level) indicates a degree of reliability in the responses of two different observers regarding acceptance of the program.

Items two and three attempted to measure the degree to which there was evidence of a planned program for students in the teacher education program while the video-tape van was visiting the campus. A summary of the responses for the 16 participating institutions is given on pages 41 and 42. The coefficient of correlation between these two items was $r = .79$, significant at the .01 level. The coefficient of correlation between a composite of items two and three and item one was .94, significant at the .001 level. This presents strong evidence that at the institution where there was general acceptance of video-tape and the project, there was also a relatively well-planned program, and vice versa.

Item four indicates the approximate total number of hours of video-tape viewing at each institution. This information is presented on pages 41 and 42. The number of hours of viewing ranged from 3 hours at institution C to 33 hours at institution E, with a mean of approximately 17 hours. As would be expected, item four has a high positive correlation with item one and with a composite of items two and three. The coefficients of correlation were $r = .69$ and .61 respectively, both significant at the .01 level. As one would predict, more extensive use was made of video-tape in schools where there was a greater degree of acceptance and a more carefully planned program.

Item five required the driver-technician to make general statements regarding the feasibility of the liberal arts colleges' use of video-tape equipment in their teacher education programs.

As a result of the experience gained in working closely with each participating institution in the project, the driver-technician gave the following responses:

1. From observations made during this project, it definitely appears feasible for liberal arts colleges to consider using video-tape as a part of their teacher education program.
2. Video-tape has most of the advantages of a 16 mm projector, plus the advantage of tape reusage and of the immediacy of recording and playback.
3. The high degree of reliability of the recorder makes it economically feasible both with respect to "down time" and repair expenses.

4. The video-tape recorder is no longer more difficult to operate than a 16 mm projector. In several schools, the tape recorder was left in charge of a member of the education department for a period of time. With a minimum of direction from the driver-technician, tapes were run changed, and rerun by the education faculty members with no real problems.

5. According to the information gained in this project, technical problems which can be expected to occur consistently include such things as record-head wear, electronic problems which would occur with any machine of equal magnitude, and machine deterioration due to usage.

6. The specific problems which did occur during this project included (1) head wear and (2) tracking malfunctions. These problems were expected and were corrected with a minimum of confusion or time loss. The heads were replaced after approximately 2000 hours of operation. The tracking malfunction was due to tape expansion and contraction as a result of extreme temperature changes (10°F. to 75°F.). To some degree this was compensated for by a tracking frequency adjustment. This tracking problem sometimes depreciated the picture quality considerably; however, the reliability of the equipment in the environment in which it operated may be considered to be quite high.

7. Although the equipment performed well, and although the tapes were utilized to good advantage by the participating institutions, the intense use of the video-tapes over a short period of time lowered the quality of the video on playback. If each institution owned a recorder, it would seem more feasible to utilize the state institution's facilities for making master tapes which would be available on request.

Item six asked the driver-technician to give his opinion of the three greatest strengths of video-tape as a tool in teacher education. These were:

1. The opportunity to observe the teaching-learning process in situations where master teachers were teaching.
2. The opportunity to relate theory to practice.
3. The opportunity for the viewer to stop the film and ask questions pertaining to the situation as it is being viewed, without interrupting the continuity of the class.

The three factors that, in the opinion of the driver-technician, would most seriously limit the effectiveness of video-tape as a tool in teacher education were given as responses to item seven. These were:

1. Deterioration of the information on a tape because of intense use over a short period.
2. The difficulty of scheduling video-tapes to fit the curriculum.
3. Technical difficulties, such as head wear and tracking malfunctions.

The first two limitations would be eliminated if each institution had its own recorder. The third limitation mentioned is less a problem today than it was at the beginning of the project, due to improved recorder design. It is interesting to note that the major strengths listed above under item six were also among the most frequent strengths mentioned by the education department chairmen of the participating institutions.

B. THE PRIMARY FUNCTION AND VALUE OF OBSERVING VIDEO-TAPES

The second objective of this project was to determine the primary function and value of observing video-tapes of classroom situations as a laboratory experience for pre-service teachers. This objective was achieved in two ways: first, by examining the responses to the Video-Tape Opinionnaire, and, secondly, by indicating the reactions of the department chairmen as indicated by item eight on the Cooperative Project Questionnaire.

1. Primary value as determined by students

A summary of the data obtained from the Video-Tape Opinionnaire and the Cooperative Project Questionnaire is presented in Part IV of this report.

A positive response score was determined for each of the items on the Video-Tape Opinionnaire. This was accomplished by (1) assigning the values 4, 3, 2, and 1, respectively, to the four options on the Video-Tape Opinionnaire; (2) multiplying the percent of students selecting each option shown in Table I, page , by the numerical value of that option; and (3) totaling the products obtained in (2) above. This procedure made it possible to rank the thirty-five items on the Video-Tape Opinionnaire according to the order of value given to each item by students who viewed video-tape recordings. Table III shows the ranking given to each item on the Video-Tape Opinionnaire by the students from the sixteen participating institutions, before viewing the video-tape (pre-test) and after viewing the video-tape (post-test). In five of the sixteen colleges, a random sample of students was introduced to interaction analysis. The ranking of the 35 items on the Video-Tape Opinionnaire by the above sample after viewing video-tape is also presented in Table III, in the column titled Post-test: Interaction Analysis.

TABLE III

RANK OF ITEMS ON THE VIDEO-TAPE OPINIONNAIRE BY STUDENTS WHO VIEWED VIDEO-TAPE

	Rank According to Order of Value		
Group Item	Pre-test N = 1303	Post-test: Non-Interaction Analysis N = 1023	Post-test: Interaction Analysis N = 231
1	1	2	1
2	2	8*	11*
3	12	13	15
4	4	5	10*
5	13	9	13
6	35	35	35
7	5	10*	8
8	29	27	27
9	24	23	20
10	30	24*	24*
11	22	22	23
12	26	31*	31*
13	33	32	32
14	14	17	16
15	6	4	4
16	32	34	34
17	31	29	30
18	23	26	26
19	28	30	29
20	8	7	12
21	27	25	25
22	3	1	2
23	15	12	17
24	34	33	33
25	19	18	5*
26	17	21	21
27	16	16	18
28	25	28	28
29	18	15	7*
30	7	3	3
31	10	11	14
32	9	6	6
33	11	14	9
34	20	20	19
35	20	19	22

*** Indicates a difference in rank of more than four places from the rank on the pre-test.**

Table IV lists the 35 items on the Video-Tape Opinionnaire, according to the order of importance given to each item after the viewing of video-tape recordings by each group, those who were introduced to interaction analysis and those who had not been introduced to this observational technique. Due to the methods by which the position of an item was determined, the probability exists that some displacement in rank occurred by chance. Therefore, only displacements in ranking of greater than four places were considered to have significance with regard to differences in total group responses.

From an analysis of Tables III and IV, some general trends are apparent:

a. There is general agreement among the non-interaction analysis group and the interaction analysis group with regard to the four items ranked most important and the twelve items ranked least important. Items ranked fifth through twenty-third show some differences in rank of importance.

b. The most important values of video-tapes, according to both groups, were included in the items that deal with observing and analyzing teacher behavior, and in the advantage of video-tape which allows viewing to be stopped for discussion and to be replayed.

c. Those items which the students disagreed with most were: items which suggested that video-tape could replace parts of the teacher education program, such as direct observation or the teacher himself; items that deal with content, such as the history and philosophy of education; items which relate to problems outside the classroom proper; or items that require viewing the same situation for long periods of time before real benefit can accrue (e.g. item 28 Video-tape can help me study one individual closely for a period of time).

TABLE IV

LIST OF ITEMS ON THE VIDEO-TAPE OPINIONNAIRE ACCORDING TO ORDER OF VALUE DETERMINED BY STUDENTS AFTER HAVING VIEWED VIDEO-TAPE

Group Rank	Non-Interaction Analysis		Interaction Analysis	
	Opinionnaire Item No.	Item	Opinionnaire Item No.	Item
		Video-Tapes can:		Video-Tapes can:
1	22	be an advantage in that they may be stopped at any time for discussion without losing the trend of activities.	1	expand my perceptions of teacher behavior.
2	1	expand my perceptions of teacher behavior.	22	be an advantage in that they may be stopped at any time for discussion with out losing the trend of activities.
3	30	distinguish between uninteresting, monotonous teaching and stimulating teaching.	30	distinguish between uninteresting, monotonous teaching and stimulating teaching.
4	15	help develop insights into the roles of the teacher.	15	help develop insights into the roles of the teacher.
5	4	expand the content of teacher education.	25	allow me to record the number and regularity of student responses to teacher, and also record student-initiated activity for future interpretation.

TABLE IV (cont.)

Group Rank	Non-Interaction Analysis		Interaction Analysis	
	No.	Item	No.	Item
		Video-Tapes can:		Video-Tapes can:
6	32	reveal systematic vs. disorganized teacher behavior.	32	reveal systematic vs. disorganized teacher behavior.
7	20	show application of learning theories.	29	distinguish between autocratic and democratic teacher behavior.
8	2	aid in the development of concepts.	7	enrich the college education class situation.
9	5	inter-relate the existing content of teacher education.	33	prove more interesting than straight lecture.
10	7	enrich the college education class situation.	4	expand the content of teacher education.
11	31	reveal both apathetic and alert student behavior.	2	aid in the development of concepts.
12	23	provide a more relaxed atmosphere for observation than a visit to an actual classroom.	20	show application of learning theories.

TABLE IV (cont.)

Group Rank	Non-Interaction Analysis		Interaction Analysis	
	No.	Item	No.	Item
		Video-Tapes can:		Video-Tapes can:
13	3	increase the capacity for interpretation.	5	inter-relate the existing content of teacher education.
14	33	prove more interesting than straight lecture.	31	reveal both apathetic and alert student behavior.
15	29	distinguish between autocratic and democratic teacher behavior.	3	increase the capacity for interpretation.
16	27	help me see how self-confidence or lack of it may show in a student's behavior.	14	help reveal the nature of the learning process.
17	14	help reveal the nature of the learning process.		provide a more relaxed atmosphere for observation than a visit to an actual classroom.
18	25	allow me to record the number and regularity of student responses to teacher, and also record student-initiated activity for future interpretation.	27	help me see how self-confidence or lack of it may show in a student's behavior.

TABLE IV (cont.)

Group Rank	Non-Interaction Analysis		Interaction Analysis	
	No.	Item	No.	Item
		Video-Tapes can:		Video-Tapes can:
19	35	provide some information in teacher education more effectively than any other method.	34	provide information more meaningful than that gained from reading and lectures.
20	34	provide information more meaningful than that gained from reading and lectures.	9	help assess the total class climate in the particular class being viewed.
21	26	help me see ways a student reveals tension or boredom.	26	help me see ways a student reveals tension or boredom.
22	11	develop a base for understanding the theoretical content of teacher education.	35	provide some information in teacher education more effectively than any other method.
23	9	help assess the total class climate in the particular class being viewed.	11	develop a base for understanding the theoretical content of teacher education.
24	10	reveal the extent to which the televised teacher attained his goals for the lesson.	10	reveal the extent to which the televised teacher attained his goals for the lesson.

TABLE IV (cont.)

Group Rank	Non-Interaction Analysis		Interaction Analysis	
	No.	Item	No.	Item
		Video-Tapes can:		Video-Tapes can:
25	21	help me understand about professional relationships of the teacher.	21	help me understand about professional relationships of the teacher.
26	18	help me detect and understand about deviate pupil behavior.	18	help me detect and understand about deviate pupil behavior.
27	8	effectively reveal characteristics of adolescents.	8	effectively reveal characteristics of adolescents.
28	28	help me study one individual closely for a period of time.	28	help me study one individual closely for a period of time.
29	17	help me develop a philosophy of education.	19	effectively point out cultural influences on the classroom situation.
30	19	effectively point out cultural influences on the classroom situation.	17	help me develop a philosophy of education.
31	12	help our understanding of school problems outside the classroom being viewed.	12	help our understanding of school problems outside the classroom being viewed.

TABLE IV (cont.)

Group Rank	Non-Interaction Analysis		Interaction Analysis	
	No.	Item	No.	Item
		Video-Tapes can:		Video-Tapes can:
32	13	help relieve my feeling of "fear of children" or "fear of the classroom."	13	help relieve my feeling of "fear of children" or "fear of the classroom."
33	24	be as effective as direct observation.	24	be as effective as direct observation.
34	16	help develop an understanding of the history of education.	16	help develop an understanding of the history of education.
35	6	effectively replace the regular college education teacher.	6	effectively replace the regular college education teacher.

d. Items to which interaction analysis is especially sensitive, such as item 25, "Video-tape allows me to record student behavior," or item 29, "Video-tape can help to distinguish between autocratic and democratic behavior," were ranked considerably higher by the interaction analysis group than by the students not introduced to interaction analysis.

e. As compared to those given in the pre-test, the responses on the post-test revealed that a number of items had been changed in the ranking more than four places.

The non-interaction analysis group ranked items 2, 7, and 12 lower and item 9 higher on the post-test than on the pre-test, whereas the interaction analysis group ranked items 2, 4 and 12 lower and items 10, 25 and 29 higher on the post-test. The fact that there were greater changes in ranking by the interaction analysis group than by the non-interaction analysis group suggests that viewing video-tapes with a knowledge of interaction analysis makes one more sensitive to certain items on the Video-Tape Opinionnaire than is a person viewing video-tapes without this knowledge. An inspection of the percent of "agree" responses in Table II indicates that the interaction analysis group was more decisively positive in responses to those items on the Video-Tape Opinionnaire which were ranked the highest than was the non-interaction analysis group.

f. Only four items on the video-tape opinionnaire received a net negative response (more disagrees than agrees). These were items 13, 24, 16, and 6.

2. Primary Value as Determined by Education Department Chairmen

Item eight of the Cooperative Project Questionnaire asked each education department chairman to list the two greatest strengths of video-tape. Similar responses were grouped into nine separate statements and are listed o pages 39 and 40 in order of importance. Because of the fact that the department chairmen were free to write individual statements concerning the value of video-tape, while the students were required to react to given statements, it is difficult to compare the responses from these two groups. Several statements given by department chairmen regarding the major strengths of video-tape do, however, relate directly to items on the Video-Tape Opinionnaire. In examples related in this way, typical responses are that video-tape:

a. Provides the opportunity for immediate student reaction and discussion of a teaching situation. This statement is essentially the same as item 22 on the Video-Tape Opinionnaire, which was ranked second and first in importance by the non-interaction analysis and interaction analysis groups respectively.

b. Provides the opportunity to relate theory to practice. This statement is closely related to item 20 on the Video-Tape Opinionnaire, which was ranked 7th and 12th by the above two groups.

c. Provides the student the opportunity to observe a wide variety of situations, provides opportunity to evaluate teaching performance, and provides opportunities to see master teachers in action. These statements suggest the same qualities as items 1, 30, 15, 4, and 32 reflect on the Video-Tape Opinionnaire. These were all items which were ranked high in the order of importance by students.

Although there is much general agreement concerning the primary values of video-tape, there are also some differences which are apparent. The education department chairmen saw video-tape as facilitating some of the problem areas in the teacher education program, such as feedback for the student teachers, bringing examples of various teaching situations to the teacher, observation scheduling, etc. By contrast, the pre-service teacher saw video-tape more as a medium presenting an opportunity to obtain practical suggestions for classroom teaching through observing teaching behavior.

No attempt will be made to compile a master list of the primary values of video-tape. The responses of the department chairmen, the non-interaction analysis group and the interaction analysis group suggest that, although general agreement concerning the primary value of video-tape exists, there are differences related both to background (knowledge of interaction analysis or lack of it) and to the immediate problems faced either as a department chairmen or as a pre-service teacher.

C. THE EFFECTIVENESS OF THE MOBILE UNIT

Objective number three was to assess the effectiveness of the mobile unit in providing CCTV experience in teacher education to the institutions without these facilities. The mobile unit in this project served primarily as a means for providing demonstrations of the potential of video-tape as a tool in the teacher education project. During the planning stages of the project, it seemed possible that general use of video-tape in the liberal arts colleges could be made feasible by circulating a video-tape recorder from school to school, since the cost of a complete set of equipment was prohibitive for any one institution. Therefore it was decided to look closely at the effectiveness of the mobile unit in providing video-tape viewing experiences. As was mentioned earlier in this report, the cost of video-tape recorders during the past two years has been reduced to a level that most private liberal arts colleges can afford. Five of the participating institutions in this project have already purchased, or are in the process of purchasing, video-tape recorders. Others have applied for funds. Even though the cost of equipment was the one weakness of video-tape most frequently mentioned by the department chairmen, it is the consensus of those who lived closest to the project that the advantage of each institution's having a tape recorder far overshadowed the savings that could result from sharing one set of equipment among several schools.

From the experience gained in the project, several distinct disadvantages are apparent in a mobile unit's serving several institutions. First of all, this arrangement makes it difficult for any one institution to have a particular tape when it is desired and needed. The experience at the Teachers College has been that, once the medium was used as an integral part of the teacher education program, it became increasingly more difficult to part with the equipment for even a short period of time. Secondly, even though the equipment used in this project was quite rugged, frequent movement of equipment from one environment to another (from extreme cold to a warm room, etc.) was a source of technical difficulties, especially due to moisture condensation on tape and recorder. Finally, the additional expenses of a van to transport equipment, of portable gear, and of hiring a person to drive the van and set up the hardware reduce savings which result from sharing one set of equipment.

From the experiences gained as a result of this project, it is apparent that the effectiveness of a mobile unit used to provide meaningful CCTV experiences to several institutions simultaneously has serious limitations which can be overcome by each institution's acquiring a video-tape recorder.

D. INTERACTION ANALYSIS AS AN OBSERVATIONAL TOOL

The fourth objective of this study was to determine whether students who have as a tool for their observational experience a knowledge of Flanders' System of Interaction Analysis report video-tapes to be significantly more valuable than those students who view video-tapes without the knowledge of interaction analysis. To accomplish this objective, a subsample of students from five of the participating institutions was given a brief introduction to Flanders' System of Interaction Analysis prior to viewing video-tape recordings. The Video-Tape Opinionnaire was administered to all students both before and after viewing video-tape recordings, and used as a criterion measure to determine the differences in attitudes toward video-tape of those who used interaction analysis and those who did not use interaction analysis as an observational tool. Table V compares scores on the Video-Tape Opinionnaire, before and after viewing of the video-tapes, for students who were not introduced to interaction analysis. Table VI makes the same comparison for students who had been introduced to interaction analysis in each of the five institutions selected at random to have an interaction analysis subgroup. Table VII compares the post-test scores (after video-tape viewing) on the Video-Tape Opinionnaire of the non-interaction analysis group and the interaction analysis group in each of the five selected institutions. Each of the tables mentioned above and presented on pages 78, 79, and 80 shows the mean scores, standard deviations, t-values and significance level for the two sets of scores compared, at each institution. The last item in each table is a tabulation of all the scores in that table, compared institution by institution. Prior to an analysis of the data presented in tables V, VI, and VII, a word of explanation is in order. A consideration of the number of students contributing scores from each school makes obvious the fact that each of the sixteen institutions is not equally

TABLE V

COMPARISON OF SCORES ON THE VIDEO-TAPE OPINIONNAIRE BEFORE AND AFTER VIEWING VIDEO-TAPE RECORDINGS FOR STUDENTS HAVING NO INTRODUCTION TO INTERACTION ANALYSIS

School	Video-Tape Opinionnaire Scores*							
	Pre-test			Post-test				
	d.f.	Mean	s.d.	d.f.	Mean	s.d.	*t*	p
A	103	64.3	13.2	28	75.1	16.4	3.69	.001
B&C	77	59.9	13.3	85	61.4	14.7	0.71	n.s.
D	72	65.2	13.5	67	75.2	17.2	3.87	.001
E	16	68.3	14.4	9	69.1	15.1	0.13	n.s.
F	56	66.5	11.7	31	65.8	13.5	0.24	n.s.
G&H	132	68.7	17.8	101	74.5	14.7	2.64	.01
I	105	65.1	14.5	115	70.5	20.4	2.24	.05
J	51	71.2	14.0	42	81.6	20.9	2.87	.01
K	199	65.3	11.7	54	77.0	12.1	5.86	.001
L	133	69.9	13.1	116	68.1	14.3	1.04	n.s.
M	140	66.7	12.1	182	68.8	16.6	1.26	n.s.
N	25	74.0	13.4	21	70.1	13.9	.86	n.s.
O	159	70.5	13.8	113	72.4	16.6	1.05	n.s.
P	123	69.6	11.7	46	73.3	15.2	1.65	n.s.
Total All Schools	1302	67.4	13.8	1022	71.0	16.8	5.64	.001

* A lower score indicates a more positive response.

TABLE VI

COMPARISON OF SCORES ON THE VIDEO-TAPE OPINIONNAIRE BEFORE AND AFTER VIEWING VIDEO-TAPE RECORDINGS FOR STUDENTS IN FIVE SCHOOLS WHO WERE INTRODUCED TO INTERACTION ANALYSIS

School	Video-Tape Opinionnaire Scores*							
	Pre-test			Post-test				
	d.f.	Mean	s.d.	d.f.	Mean	s.d.	t	p
G&H	132	68.7	17.8	58	70.1	19.8	.48	n.s.
K	99	65.3	11.7	36	67.7	16.3	0.95	n.s.
M	141	66.7	12.1	34	61.8	12.1	2.11	.05
O	159	70.5	13.8	14	69.3	14.2	0.32	n.s.
P	123	69.6	11.7	84	67.0	13.8	1.47	n.s.
Total Five Schools	657	68.4	13.8	230	67.3	15.8	0.98	n.s.

* A lower score indicates a more positive response.

TABLE VII

COMPARISON OF SCORES ON THE VIDEO-TAPE QUESTIONNAIRE AFTER VIEWING VIDEO-TAPE RECORDINGS FOR STUDENTS WHO WERE NOT INTRODUCED TO INTERACTION ANALYSIS AND FOR STUDENTS WHO WERE INTRODUCED TO INTERACTION ANALYSIS

School	Video-Tape Opinionnaire Post-test Scores*							
	Non-Interaction Analysis Group			Interaction Analysis Group				
	d.f.	Mean	s.d.	d.f.	Mean	s.d.	t	p
G&H	101	74.5	14.7	58	70.1	19.8	1.59	n.s.
K	53	77.0	12.1	36	67.7	16.3	3.10	.01
M	182	68.8	16.6	34	61.9	12.1	2.35	.02
O	113	72.4	16.6	14	69.5	14.2	.701	n.s.
P	46	73.3	15.2	84	67.0	13.8	2.87	.01
Total Five Schools	499	72.1	15.8	230	67.3	15.8	3.80	.001

* A lower score indicates a more positive response.

represented. Also, it is apparent that some students who completed a pre-test did not complete a post-test. The reverse is also true.

Due to the difficulties involved in scheduling simultaneous testing prior to and immediately following the visit of the video-tape van, it was deemed necessary to authorize each school to administer the evaluation instrument. Unfortunately, the need for stringent standards in evaluation procedures was not sufficiently communicated to the participants. As a result, the returns on pre-tests and post-tests are incomplete for some institutions.

Furthermore, to maintain the anonymity of respondents, individual identification was not required on Opinionnaires. Consequently it was not possible to match pre-test and post-test data. The tests presented in Tables V, VI, and VII, therefore, are valid only insofar as the sample of students who filled out the Video-Tape Opinionnaire is a valid sample of the students from that institution who viewed the video-tapes. For large samples, it is estimated that the validity is quite high. For smaller samples, however, this may not be true. It is extremely important, therefore, that caution be exercised in attaching a meaning to the data obtained from a single school, especially if the sample is small. In view of the limitations discussed above, it is proposed that one consider chiefly the general trends suggested by the data as well as the inferences that can be drawn from differences between the mean scores of total groups.

In spite of the limitations mentioned above, a close examination of the data in Tables V, VI and VII suggests several significant trends:

1. Students who viewed video-tape without interaction analysis as an observational technique became less positive in their attitudes toward video-tape as a tool in teacher education. Eleven of the fourteen institutions visited by the video-tape van indicated a net increase in numerical score on Table V, indicating a less positive attitude on the post-test than on the pre-test. The mean for the total 1303 pre-test scores was 67.4, while the mean for the total 1023 post-test scores was 71.0. A test for the difference between means yielded a t-value of 5.64, significant at the .001 level.
2. Students who viewed video-tapes with an elementary knowledge of Flanders' System of Interaction Analysis made no significant change in their total positive attitude toward video-tape as measured by the Video-Tape Opinionnaire. Table VI shows the pre-test scores and the post-test interaction analysis scores for the five schools where interaction analysis information was presented to a sub-group of students. The pre-test mean was 68.4 and the post-test mean for the interaction analysis group was 67.3. A test for the difference between mean scores yielded a t-value of .98, which was not significant.
3. Students who were introduced to interaction analysis were more positive in their attitude toward video-tape _after_ viewing video-taped recordings than students who were not introduced to interaction analysis. Table VII presents the mean post-test scores for 500 students who had no knowledge of interaction analysis, and the mean post-test scores for 231 students who had been introduced to interaction analysis in five randomly-selected institutions.

A t-value for the difference between means was calculated to be 3.80. This value was larger than the value needed for the .001 level of significance. From an observation of the data in Table VII, it is apparent that the interaction analysis group in each of the five institutions gave more positive reactions after video-tape viewing than the non-interaction analysis group. However, in only three of the institutions was the difference significant beyond the .02 level.

The general pattern described in items 1, 2, and 3 above, which is substantiated by the data summarized in Tables V, VI and VII, strongly supports two unwritten hypotheses held by the members of the research team who worked on this project. These were:

1. Students who had not viewed video-tape recordings would, in general, judge video-tapes in relation to their own perception of their value, if commercial television standards of technology and programming were maintained.
2. Students who have interaction analysis as a tool for observation of classroom behavior will see more value in video-tape as a tool in teacher education than students without this observational technique.

The general trend of responses from the non-interaction analysis group (Table V), which shows a less positive attitude toward video-tape after viewing, coupled with the frequent comments by students during the visit of the video-tape van concerning the quality of the video reproduction, indicated that video-tape was not fulfilling the students' expectations of the medium. It seems likely that students over-rated video-tape because of its close association with commercial television. Another factor which could have influenced the pre-test scores was the impetus given the project at the institution prior to the visit of the video-tape van. In an examination of the pre-test scores as well as the responses of the department chairmen on the Cooperative Project Questionnaire, it is apparent that there is a degree of correlation between the acceptance of video-tape by the education department and the pre-test scores. This is not, however, the case for every school.

The fact that the interaction analysis group did not see less value in video-tape after than before viewing it as did their peers who had no interaction analysis background, could mean that the observational tool which they possessed, namely interaction analysis, counterbalanced the effect caused by the technical aspect of the video-tape's not being on par with commercial television.

As mentioned in part B of this chapter, the interaction analysis group showed an increased sensitivity to certain items on the Video-Tape Opinionnaire as a result of their treatment in the project. Also, the percentages shown in Table I indicate that this group became more decisely positive during the project in their assessment of the value of video-tape as indicated by certain items of the Video-Tape Opinionnaire. These evidences support the second hypothesis mentioned above, namely that the observational tool provided to the interaction analysis sample did enable them to see more value in video-tape after viewing it than did their peers who had no interaction analysis treatment.

If one assumes that the differences between post-test scores for the two groups, as compared in Table VII, was due to the interaction analysis treatment, it logically follows that the effect which caused this difference was communicated in a relatively short time, since the Flanders' System of Interaction Analysis was presented to the students in approximately two hours.

One other trend is suggested by the data summarized in Table VII. Three different individuals were responsible for presenting interaction analysis to the five groups in the five institutions selected for this purpose. Although the time and method of the presentation were uniform in these cases, it is still reasonable to assume that the degree of communication between the persons presenting the material and the groups was not the same. The individual making the presentation to schools G and H, Table VII, had a limited amount of experience with interaction analysis. The difference between the non-interaction analysis group scores and the interaction analysis group scores for this institution was not significant. In schools M, O, and P, the person who presented interaction analysis to the students had approximately one year of experience with that observational system. The differences in scores for the two groups tested were significant in two of the three schools. The individual who presented interaction analysis to school K had several years of experience with Flanders' System of Interaction Analysis, including work with one depth study using this observational technique. The difference between mean scores for the two groups compared was 9.3, significant at the .001 level. This difference was the most significant of the scores compared in Table VII. Although these observations are not conclusive, they suggest that a comprehensive understanding of interaction analysis is necessary for the instructor if its value is to be communicated to the students.

PART VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

PART VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

A. SUMMARY

The project described in this report was designed (1) to assess the feasibility of a cooperative effort in which a state teachers college shares video-taped recordings produced specifically to provide laboratory experiences in the area of teacher education with private liberal arts colleges, (2) to assess the primary value of video-taped recordings as a tool in teacher education and (3) to determine the relative effectiveness of interaction analysis as an observational tool in viewing video-taped recordings of teaching-learning situations.

To achieve the purposes for which this project was designed, sixteen private liberal arts colleges in Kansas were each furnished the facilities and services of a video-tape van for a one week period. The van was a mobile unit bearing a video-tape recorder, two television monitors and sound systems, and a battery of twenty-four pre-recorded video-tapes designed to provide laboratory experiences in teacher education.

The feasibility of the cooperative effort as well as the primary value of video-taped recordings was determined from several sources of evaluation. A Video-Tape Opinionnaire was administered to all students who viewed video-taped recordings in the sixteen liberal arts colleges, to assess their reactions to the value of this medium. The Cooperative Project Questionnaire was completed by the education department chairmen of the liberal arts colleges to obtain quantitatively their reactions to the project and their assessments of the value of video-taped recordings. The Cooperative Project Evaluation Form was completed by the driver-technician who accompanied the van to each of the schools. This instrument was used to evaluate the technical phase of the project and to evaluate the acceptance of the project in the participating institution.

To test the value of the use of an observational tool for video-tape viewing, a subsample of 231 students was selected from five institutions and introduced to Flanders' System of Interaction Analysis prior to the visit of the video-tape van. The data gathered in this study was analyzed with respect to each participating school as well as to the total participating group. The group who received the interaction analysis treatment was compared to their peers who did not have this treatment.

B. CONCLUSIONS

The following conclusions were drawn from the data analyzed in the evaluation phase of this study.

1. A cooperative project in Kansas between a state teachers college and private liberal arts colleges in the use of video-tape recordings for teacher education is feasible with respect to (a) the administration of the program, (b) the general acceptance of video-tape as a valuable tool in teacher education, and (c) the suitability of the technical aspects of video-tapes and video-tape equipment for use in teacher education programs.
2. There exists general support from the institutions which participated in this study for further cooperation in projects involving the Teachers College and private liberal arts colleges, which would make video-tapes available for teacher education programs.

3. Although the facilities and personnel of the laboratory school at the Teachers College were generally considered suitable for producing video-taped recordings of classroom situations, there is some feeling in the education faculties of the liberal arts colleges that more video-tapes of "typical" public school situations would be desirable.
4. In general, the greater the degree to which the education faculty of an institution accepted video-tape as a valuable tool in teacher education, the greater was the use of video-tape by that institution in this project. This was true both for the number of hours during which video-tapes were viewed by students and for the degree to which a planned program was implemented at a particular institution.
5. A list of items which defines the primary function and value of video-tape recordings for teacher education, as completed by education department chairmen and as selected by pre-service teachers, shows these areas of comparison.
    a. There is general agreement among pre-service teachers and education department chairmen that a major area of the strength of video-tape is that it provides the opportunity to bring to the pre-service teacher a variety of selected teaching situations which can be played, stopped for discussion, and replayed, at the discretion of the teacher.
    b. Whereas the education department chairman sees video-tape as facilitating some of the problem areas in teacher education, such as providing feedback for student teachers, and relief from the problems

of observation scheduling, the pre-service teacher sees video-tape as furnishing an opportunity to obtain practical suggestions for classroom teaching through observation of teaching behavior.

6. From the experiences gained as a result of this project, it is apparent that the effectiveness of a mobile unit in providing meaningful CCTV experience to several institutions simultaneously has serious limitations. These limitations could be eliminated by each institution's acquisition of a video-tape recorder.
7. As a result of viewing video-tape recordings of classroom situations, students who do not have a knowledge of interaction analysis as an observational technique tend to become less positive in their attitudes toward video-tapes, as measured by the Video-Tape Opinionnaire.
8. As a result of viewing video-taped recordings, students who were introduced to Flanders' System of Interaction Analysis did not show the less positive attitude toward video-tape which was evidenced by the reactions of their peer group, who did not have the benefit of a knowledge of interaction analysis.
9. After viewing video-tape recordings of classroom situations, students who were introduced to Flanders' System of Interaction Analysis were significantly more positive in their attitudes toward video-tape (.001 level), as measured by the Video-Tape Opinionnaire, than were those students who were not introduced to interaction analysis.

10. The knowledge of interaction analysis is helpful in making students more sensitive to those teacher behaviors which can be observed from video-taped recordings and which are categorized by the system of interaction analysis.

C. RECOMMENDATIONS

The feasibility and acceptance of a cooperative effort between a state-supported institution and private liberal arts colleges has been established in this report. Primary values of video-tape for teacher education programs have been defined, and a valuable technique for video-tape observation has been tested. Furthermore, certain shortcomings of the cooperative arrangement in this project have been identified. Five of the sixteen institutions which participated in this project already have or are in the process of purchasing video-tape equipment; several other institutions have applied for funds to purchase video-tape equipment. The use of video-tape as a tool in teacher education programs will inevitably increase in Kansas, both in state-supported institutions and in private liberal arts colleges. The most efficient use of facilities, personnel, and time will acrue only if some type of cooperative program between institutions is maintained. Thirteen of the sixteen colleges which participated in this project indicated that they would welcome further cooperation in projects that would make video-tapes available for teacher education programs. On the basis of the experience gained in this project, the following recommendations were made for further cooperative projects:

1. The education department of each private liberal arts college should be encouraged to acquire a video-tape recorder for its own use.

2. The Teachers College, because of its stockpile of video-tapes, should maintain a library of master tapes which could be dubbed onto tapes owned by each institution. This would avoid scheduling problems and would enable each college to have on tape at its institution those recorded classroom situations which are deemed most valuable for its program.
3. Each participating institution should have a minimum of seven one-hour tapes, which could be sent to the tape library at the state institution to be programmed with a series of classroom situations determined by the individual liberal arts college.
4. The state institution should expand its holdings of master tapes by (a) obtaining copies of desirable tapes from other institutions, (b) by continuing to tape classroom situations in the laboratory schools, and (c) by expanding its facilities and personnel to the extent that a variety of classroom situations in schools other than the laboratory school could be recorded.
5. Students in teacher education programs who will view video-taped recordings should be introduced to interaction analysis or any other proven observational system that will serve as an observational tool for critical analysis and evaluation of classroom behavior.

APPENDIX A

THE OBSERVATIONAL TECHNIQUE OF INTERACTION ANALYSIS*

by

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The system described here, the Flanders system of Interaction Analysis, has been utilized to discover some of these relationships. In the Flanders sytem only verbal interaction between teachers and pupils is analyzed because of the difficulty in reliably categorizing non-verbal behavior. All teacher-pupil interaction is divided into ten categories; seven of teacher talk, two of student talk, and one of silence or confusion. Reference to the chart on page 98 during the reading of the following section will assist the reader in obtaining the over-all picture of the categories described in this section.

Teacher talk is recorded under one of two major headings: (a) indirect influence, and (b) direct influence. Indirect influence contains four, and direct influence three, categories. Included under the classification of indirect teacher influence are those types of teacher statements which increase student freedom to respond. Direct teacher influence refers to statements which restrict response by students.

A closer look at the categories of indirect influence reveals the exact types of teacher statements included here. Category one, acceptance of feeling, contains teacher statements communicating acceptance by the teacher of both positive and negative student feelings. Statements which judge the "goodness" or appropriateness of pupil behavior comprise Category two. These may be either praise or encouragement. Category three, acceptance of ideas, is made up of teacher statements which reflect, summarize, or clarify student ideas. Teacher questions which require children's response are assigned to Category four.

Categories of direct teacher influence reveal a contrasting type of teacher behavior. Lecture, giving information, and expressing opinion are recorded in Category five, and Category six is used for the teacher's directions to pupils. In Category seven are placed both statements of criticism and those in which the teacher justifies his authority. Such statements are usually designed to change pupil behavior.

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* This description of interaction analysis is an excerpt from a paper which was delivered to the American Educational Research Association, February, 1963, in Chicago, Illinois.

Student talk is divided into only two categories -- Category eight, which is student talk in response to the teacher, and Category nine, student talk initiated by the student.

In the remaining category are recorded periods of silence or confusion. Pauses, short periods of silence, and periods during which the observer cannot determine who is talking are included in this category. This category, number ten, is necessary because it allows the person who is doing the recording to account for every minute of the time spent in systematic observation.

A summary of the ten categories of interaction analysis with brief definitions can be found on page 98. There is NO scale implied by these numbers. Each number is classificatory, it designates a particular kind of communication event. To write these numbers down during observation is to enumerate, not to judge a position on a scale.

CATEGORIES FOR INTERACTION ANALYSIS

TEACHER TALK	INDIRECT INFLUENCE	1. ACCEPTS FEELING: accepts and clarifies the feeling tone of the students in a nonthreatening manner. Feelings may be positive or negative. Predicting or recalling feelings are included.
		2. PRAISES OR ENCOURAGES: praises or encourages student action or behavior. Jokes that release tension, not at the expense of another individual, nodding head or saying "um hm?" or "go on" are included.
		3. ACCEPTS OR USES IDEAS OF STUDENT: clarifying, building, or developing ideas suggested by a student. As teacher brings more of his own ideas into play, shift to category five.
	DIRECT INFLUENCE	4. ASKS QUESTIONS: asking a question about content or procedure with the intent that a student answer.
		5. LECTURING: giving facts or opinions about content or procedure; expressing his own ideas, asking rhetorical questions.
		6. GIVING DIRECTIONS: directions, commands, or orders to which a student is expected to comply.
		7. CRITICIZING OR JUSTIFYING AUTHORITY: statements intended to change student behavior from nonacceptable to acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing; extreme self-reliance.
	STUDENT TALK	8. STUDENT TALK--RESPONSE: talk by students in response to teacher. Teacher initiates the contact or solicits student statement.
		9. STUDENT TALK--INITIATIO: talk by students which they initiate. If "calling on" student is only to indicate who may talk next, observer must decide whether student wanted to talk. If he did, use this category.
		10. SILENCE OR CONFUSION: pauses, short periods of silence and periods of confusion in which communication cannot be understood by the observer.

APPENDIX B

Name________________________________ Date____________________

Sex _______________

KANSAS STATE TEACHERS COLLEGE OF EMPORIA

A Video-Tape Opinionnaire

Did you see video-tapes of these teaching situations
during the 1965-1966 school year? __________________

Rate each of the statements below with the appropriate number on the rating scale, which is closest to your impression of the value of video-tapes in teacher education for this particular activity.

1 = agree
2 = agree, with reservation
3 = disagree, with reservation
4 = disagree

Video-tapes can:

_____ 1. expand my perceptions of teacher behavior.

_____ 2. aid in the development of concepts.

_____ 3. increase the capacity for interpretation.

_____ 4. expand the content of teacher education.

_____ 5. inter-relate the existing content of teacher education.

_____ 6. effectively replace the regular college education teacher.

_____ 7. enrich the college education class situation.

_____ 8. effectively reveal characteristics of adolescents.

_____ 9. help assess the total class climate in the particular class being viewed.

_____10. reveal the extent to which the television teacher attained his goals for the lesson.

_____11. develop a base for understanding the theoretical content of teacher education.

_____12. help our understanding of school problems outside the classroom being viewed.

_____13. help relieve my feeling of "fear of children" or "fear of the classroom."

_____14. help reveal the nature of the learning process.

_____15. help develop insights into the roles of the teacher.

_____16. help develop an understanding of the history of education.

_____17. help me develop a philosophy of education.

_____18. help me detect and understand about deviate pupil behavior.

_____19. effectively point out cultural influences on the classroom situation.

_____20. show application of learning theories.

_____21. help me understand about professional relationships of the teacher.

_____22. be an advantage in that they may be stopped at any time for discussion and not lose the trend of activities.

_____23. provide a more relaxed atmosphere for observation than a visit to an actual classroom.

_____24. be as effective as direct observation.

_____25. allow me to record the number and regularity of student responses to teacher and also record student-initiated activity for future interpretation.

_____26. help me see ways a student reveals tension or boredom.

_____27. help me see how self-confidence or lack of it may show in a student's behavior.

_____28. help me study one individual closely for a period of time.

_____29. distinguish between autocratic and democratic teacher behavior.

_____30. distinguish between uninteresting, monotonous teaching and stimulating teaching.

_____31. reveal both apathetic and alert student behavior.

_____32. reveal systematic vs. disorganized teacher behavior.

_____33. prove more interesting than straight lecture.

_____34. provide information more meaningful than that gained from reading and lectures.

_____35. provide some information in teacher education more effectively than any other method.

APPENDIX C

THE COOPERATIVE PROJECT QUESTIONNAIRE

AN EVALUATION OF THE COOPERATIVE PROJECT PROVIDING OBSERVATION AND DEMONSTRATIONS IN TEACHER EDUCATION THROUGH VIDEO-TAPE RECORDING TO LIBERAL ARTS COLLEGES.

Name________________________________College or University__________________________

Position____

Please record your frank and honest reponse to the following ten items. Your replies will be kept in strictest confidence and will be used solely for the purpose of evaluating the acceptance of video-tape as a tool in teacher education programs and for determining the success of the cooperative effort with liberal arts colleges. Please select the response that most nearly agrees with your reaction to each general question. If you feel that your choice of response requires explanation, a space for comments is provided on the last page of this instrument.

---

1. Assuming that you have or were able to secure video-tape equipment at your school, do you feel it is feasible for a liberal arts college to cooperate with a state institution in the use of video-taped recordings?

_____a. Very definitely, without reservation.

_____b. Yes, but with the recognition that certain problems definitely exist in this type of arrangement.

_____c. It would depend to a large extend whether or not certain problems could be worked out to the satisfaction of the institutions involved.

_____d. The idea has merit, but the magnitude of the problems involved probably outweighs the value of this type of a venture.

_____e. No. The problems of cooperation between state and private institutions in this type of project are almost insurmountable and any efforts to promote this type of arrangement would be unwise.

2. Do you feel that the facilities and personnel of the laboratory school at Kansas State Teachers College are suitable for the production of video-tapes that are valuable in teacher education programs?

_____a. Extremely well suited for this purpose.

_____b. Generally suitable, with some recognizable limitations.

_____c. Generally acceptable, but really no more suitable than the facilities of a public school.

_____d. The facilities of the laboratory school are probably less suitable than the public schools for the production of valuable video-tapes.

_____e. The laboratory school's facilities are definitely not suitable for the production of video-tapes for use in teacher education programs.

3. Do you feel that video-tapes of actual classroom situations are an effective means of providing meaningful experiences in pre-professional training?

_____a. Extremely effective.

_____b. Effective, but they definitely have limitations.

_____c. Useful, but not more so than other alternatives which are more feasible for liberal arts colleges than the acquisition of video-tape equipment and good video-tapes.

_____d. Although some benefits can be derived from having students observe classroom situations via video-tapes, they are generally not worth the time and effort that this activity requires.

_____e. Video-tapes provide little or no opportunity for meaningful experiences in teacher education programs.

4. Was there general acceptance by your educational faculty of video-taped recordings as a valuable tool in a teacher education program?

_____a. Almost unanimous acceptance.

_____b. Acceptance, with some reservation.

_____c. In general, a very mixed reaction to video-taped recordings.

_____d. Some acceptance, but the feeling of the majority was that video-taped recordings were not too valuable as tools in a teacher education program.

_____e. General non-acceptance of video-taped recordings.

5. How much interest was shown in video-tape facilities as a valuable tool for instruction by departments other than teacher education in your college or university?

_____a. Interest was extremely high.

_____b. Some general interest shown by certain departments.

_____c. A mixed reaction from various departments concerning the value of video-tape.

_____d. No reaction, or a slightly negative reaction, was obtained from departments other than teacher education.

_____e. A general negative reaction by departments to the value of video-tape as a tool for instruction.

6. Have steps been taken at your school to procure video-tape equipment?

_____a. We have video-tape equipment in operation at our school, or we have access to video-tape equipment at our school.

_____b. We definitely plan to purchase video-tape equipment within the next year.

_____c. We have applied for funds to purchase video-tape equipment.

_____d. We have talked about the possibility of getting video-tape equipment, but no further action has been taken.

_____e. No steps have been taken to procure video-tape equipment, or we do not plan to procure video-tape equipment at our institution.

7. What influence, if any, do you feel the visit of the video-tape van had on the action you reported in item six?

_____a. The visit of the video-tape van was almost entirely responsible for our action.

_____b. The visit was one of the major influences.

_____c. The visit probably had some influence.

_____d. The visit had little or no influence on our action.

_____e. The visit probably had a negative influence on any action we might have taken.

8. What do you consider to be the two greatest strengths of video-tape as a tool in teacher education programs?

a. ____

____

b. ____

____

9. What do you feel are the two most serious limitations of video-tape?

a. ____

____

b. ____

____

10. Would you invite further cooperation in projects that would make video-tape available to your school?

_____a. Definitely, without reservation.

_____b. Yes, provided it would not seriously conflict with our continuing teacher education program.

_____c. This would depend to a large degree on the nature of the project, scheduling, and value of the project to our teacher education program.

_____d. Probably not, due to the fact that either video-tapes are not suitable to our teacher education program or that adding to our present program presents serious scheduling problems.

_____e. Definitely not.

APPENDIX D

THE COOPERATIVE PROJECT EVALUATION FORM

To be completed by the driver-technician

Please answer the following questions for each school visited by the video-tape van.

I. Was there general acceptance of the CCTV project and an enthusiasm shown for the potential of video-tape as a tool in teacher education programs?

1. Almost unanimous acceptance.
2. General acceptance, with some reservation shown individually or collectively.
3. A somewhat mixed reaction to the project and video-tape.
4. The project was tolerated, but in general not welcomed.
5. There was definitely a general negative reaction to the project during the visit of the video-tape van.

II. From your observation, did the students appear to be "primed" for the video-tape presentation prior to the visit of the van?

1. It was obvious that the project had been given a good deal of promotion prior to the visit of the video-tape van.
2. Most of the students had been introduced to the project but did not appear to have been indoctrinated with the pros and cons of video-tape.
3. It was difficult to tell whether the students had been introduced to the project or not.
4. Probably there had been no introduction to the project or video-tape prior to the visit of the van.
5. There appeared to be a slightly negative reaction to the project, promoted prior to the visit.

III. In your opinion, were the video-tapes shown used for a specific purpose in a planned program?

1. In general, specific tapes were requested for specific purposes and a follow-up discussion or a follow-up assignment was initiated by the teacher.
2. Certain tapes were requested, but little if any follow-up was initiated by the teacher.
3. Students came to watch video-tape by classes, but no specific tapes were requested.
4. Students with varying teaching interests were assigned to view tapes at one time, with no apparent plan or program.
5. Students came and went as they pleased, simply to fill a time obligation.

IV. Approximately how many hours of video-tape viewing were scheduled at this institution?

Please give your general opinion on the following items from your experience with video-tape equipment in the CCTV project.

V. Is it feasible for a liberal arts college to consider using video-tape equipment as an integral part of its teacher education program with respect to:

1. the skills needed to operate the equipment? (Can the education faculty learn to operate the equipment?)
2. the durability and dependability of equipment? (What are specific technical problems that are likely to occur?) Be specific.
3. the feasibility of moving a video-tape machine from school to school if several institutions should decide to go together and purchase equipment? (Are there specific reasons why this would be unwise?)

VI. What do you feel are the three greatest strengths of video-tape as a tool for teacher education programs in liberal arts colleges?

VII. What do you feel are the three factors that would most seriously limit the use of video-tape as an effective tool in teacher education programs in liberal arts colleges? (Answer this question with respect to the cooperative effort.)

VIII. From your experience within the CCTV project, what type of program do you see as having the most promise in terms of a cooperative effort (state & liberal arts) using video-tapes in teacher education programs?

RATING FORM FOR ITEMS
I, II, III and IV

Institution	Item I	Item II	Item III	Item IV
Southwestern College (Winfield)				
St. Benedicts (Atchison)				
St. Scholastica (Atchison)				
Sterling (Sterling)				
College of Emporia (Emporia)				
McPherson College (McPherson)				
Friends University (Wichita)				
Sacred Heart (Wichita)				
St. Mary of the Plains College (Dodge City)				
Bethel (Newton)				
Tabor College (Hillsboro)				
Ottawa University (Ottawa)				
Marymount College (Salina)				
Kansas Wesleyan (Salina)				
Saint Mary (Xavier)				
Baker University (Baldwin)				

APPENDIX E

SCHEDULE FOR VIDEO-TAPE VIEWING

Name of College or University____________________________

Person at this college in charge of project____________________

(Where this person can be located) Office Number__________Office Phone__________Home__________

List and give requested information for the first three choices of classes in which video-tapes could be used.

Name of Course	Days of week class meets (underline)	Time of class meeting	Where class meets	Instructor's name	Number enrolled
1.__________	M T W Th F	__________	__________	__________	__________
2.__________	M T W Th F	__________	__________	__________	__________
3.__________	M T W Th F	__________	__________	__________	__________

List below other classes in which video-tapes could be used.

Name of Course	Days of week class meets (underline)	Time of class meeting	Where Class meets	Instructor's name	Number enrolled
1.__________	M T W Th F	__________	__________	__________	__________
2.__________	M T W Th F	__________	__________	__________	__________
3.__________	M T W Th F	__________	__________	__________	__________

Could any of the above classes be combined for a single showing? Yes________ No________

Which ones?____________________ ____________________

Underline any week below that we should not come to your institution.

Jan. 31-Feb. 4; Feb. 7-11; Feb. 14-18; Feb. 21-25; Feb. 28-Mar. 4; Mar. 7-11; Mar. 14-18; Mar. 21-25;

Mar. 28-Apr. 1; Apr. 4-8; Apr. 11-15; Apr. 18-22; Apr. 25-29; May 2-6; May 9-13.

If you have a preference for the week visited, list your first and second choice.

1.____________________________ 2.____________________________

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